

Curriculum vita



Assoc. Prof. Fatma Mohamed Mahgoub

Personal Details

Name: Fatma Mohamed Mahgoub

Home Address: 26 Abdelmonaem Sand Street, Al Ibrahimiyah, Bab-shark
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Work Address: Department of Materials Science, Institute of Graduate Studies
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Date of Birth: December 3, 1958

Marital Status: Married

Sex: Female

Nationality: Egyptian

Position: *Professor Emeritus* of Electrochemistry and Corrosion, Materials science
Department, Institute of Graduate Studies and Research, Alexandria University, Egypt.

Education

- **Ph.D. Degree in Materials Science**, Department of Materials Science, *Institute of Graduate Studies and Research (IGSR)*, Alexandria, Egypt. (1996).

Thesis entitled: "Rates of Metallic Corrosion in Aqueous Solutions Containing Organic Additives"

- **M.Sc. Degree in Physical Chemistry**, Department of Chemistry, Faculty of Science Alexandria, university, Egypt. (April 1986)

Thesis entitled: "Inhibition of the Acid Corrosion of Steel by Some Organic Compounds"

- **Bachelor's degree in Special Chemistry**, Faculty of Science, Alexandria University, Egypt. Grade: Very good. (May 1981).

Occupation

- **2019 till current date: professor Emeritus** of electrochemistry and corrosion, Materials science Department, Institute of Graduate Studies and Research, Alexandria University, Egypt.
- **2011 till current date: Associate professor** of electrochemistry and corrosion, Materials science Department, Institute of Graduate Studies and Research, Alexandria University, Egypt.
- **2000 - 2011: Associate Professor** of Physical Chemistry, Chemistry Department, Faculty of Science, King Abdul Aziz University (KAU), Jeddah, KSA.
- **1996 - 2000: Lecturer** of Physical Chemistry in Materials Science Department, Institute of Graduate Studies and Research, Alexandria University, Alexandria
- **1997-2000: Lecturer** at Chemistry Department, Faculty of Engineering, Arab Academic for Science and Technology (AAST), Alexandria, Egypt.

- **1993-1995: Full time researcher** at University of **Manchester** in (UMIST) in the field of **Corrosion**, Manchester, **United Kingdom**.
- **1986-1992: Assistant Lecturer** in **Materials Science** Department, Institute of Graduate Studies and Research, Alexandria University, Alexandria, Egypt.
- **1981-1985: Demonstrator** in Materials Science Department, Institute of Graduate Studies and Research, Alexandria University, Alexandria, Egypt.

National Memberships

1996- till current date: Member of Egyptian Corrosion Society (**ECS**)

1990 – till current date: Member of the Arabic society of Materials Science
(**ASMS**)

Teaching Courses

- **IGSR:**
 - ✓ Corrosion control. (Master Program) 711
 - ✓ Plastics as corrosion inhibitors. (PhD Program) 816
 - ✓ Investigation and corrosion monitoring. (PhD Program) 817
 - ✓ Electrochemistry and corrosion science. (PhD Program) 815
 - ✓ Materials structure. (Master Program) 701
 - ✓ Functional surfaces. (Master Program) 731
 - ✓ Thermodynamics of materials Science. (Master Program) 724
 - ✓ New trend in materials science. (PhD Program) 828
 - ✓ Materials and Environment. (Master Program) 717
 - ✓ Technical writing. (Both Master &PhD Program) 780
 - ✓ Research methodology. (Both Master &PhD Program) 770

✓ Special topics in materials science. (Master Program) 725

• **AAST:**

- ✓ Principles of Corrosion.
- ✓ Forms of Corrosion.
- ✓ Fuel and Combustion.
- ✓ Lubrication and Lubricants
- ✓ Water Content and Treatment
- ✓ Pollution of Environment

• **KSA:**

- ✓ General chemistry (110)
- ✓ General science (100)
- ✓ Thermodynamics (241)
- ✓ Chemical kinetics (344)
- ✓ Physical polymer (441)
- ✓ Electrode dynamics (446)
- ✓ Photo chemistry (444)
- ✓ Advanced thermodynamics (640)
- ✓ Graduated research (491)
- ✓ Special topics – Corrosion (695)

Academic Degree's Supervision

I have supervised a number of M.Sc. and Ph.D. students in the following areas of research:

❖ **Ph.D. Supervision:**

- 1- Asmaa Ibrahim “Bioinspired Nanocomposites for Atmospheric Water Harvesting.” (2022)

- 2- Dina Mostafa Rageb “Fabrication of Superhydrophobic Surfaces for Corrosion Control.” (2019)
- 3- Eman Hameed “water extract of some plants as green corrosion inhibitors on mild steel in acidic solution” (2017)
- 4- Yasser El.Samadisy "New heterocyclic formations to control corrosion of ferrous alloy in cooling water system” (1997)
- 5- Mosaad El-Kasaby "Inhibition of corrosion of steel in sea water" (1996)

❖ *M.Sc. Supervision:*

- 1- Islam Saeed Muhammad “Preparation and Characterization of Epoxy/Bentonite Nanocomposite as anticorrosive coating for carbon steel in aqueous medium.” (2022)
- 2- Mohamed Gamal “Usage of green corrosion inhibitor for flat steel in acid pickling process.” (2022)
- 3- Magdy Talat “Optimization of the Steel Coating Process Parameters to Control the Longitudinal Facial Crack Defect.” (2021)
- 4- Poula Smir “Preparation of Superhydrophobic Graphene-based Film on Steel Surface for Corrosion Inhibition.” (2020)
- 5- Hadeer Mohamed “Effect of Acid Pickling and Passivation on Surface Morphology and Corrosion Behavior of Carbon Steel.” (2019)
- 6- Ahmed Hgazy “Synthesis and molecular modeling of organic corrosion inhibitors for mild steel in acidic medium.” (2019)
- 7- Abd Elrahman Elseed “Inhibition of Copper Corrosion in Acidic Medium using Prepared Organic Compound.” (2019)
- 8- Sara Salama “Application of eco-friendly products as corrosion inhibitors for steel in acidic media.” (2019)
- 9- Ahmed Ibrahim orabi “Preparation and Characterization of NickelMolybdenum/Tungsten Carbide Metallic Glass Nano Composites.” (2017)

10. Aya Hamdy “Characterization of the Effect of Gamma Irradiation on the Modified Hensch Glass 45s5 Doped by Rare Earth.” (2017)
11. Randa Hamouda Dawood “The Effect of Crystallization on Borate Bioactive Hensch Glass 45S5 Doped by Rare Earth Neodymium” (2017)
12. Amir Anwar Othman “Corrosion Behavior of Steel in Bottom Water of Petroleum Storage Tanks” (2018)
13. Mai Zaki “Preparation and Characterization of Sodium Alginate Grafted Polyacrylamide using Microwave as a Green Corrosion Inhibitor for Mild Steel in Acidic Medium.” (2018)
14. Hany Ahmed Abu Zaid " Effect of Thermomechanical Treatments on the Microstructure and Biocompatibility of new Ti-Nb-Ta Alloy.” ((2019)
15. Mohamed shenawi “Preparation and characterization of some eco-friendly corrosion inhibitor for emulsion paint” (2018)
16. Ahmed AboHelwa “Study the effect of parameters on scale formation during hot strip rolling” (2018)
- 17- Omar Gamal “Effect of Nano particles-coated welding electrodes on mechanical and electrochemical behavior of welded joints” (2018)
- 18- Radwa Zarea “Study of the green corrosion inhibitors for steel in acidic medium” (2017).
- 19- Mohamed Elsayed “Mechanical properties and electrochemical behavior for system borosilicate glass” (2017).
- 20- Ahmed Hassan “poly pyrrol deposit on the metal to apply super capacitor” (2017).
- 21- Amal Elsadari "Inhibition of the acid corrosion of steel by some organic compounds" (2007).
- 22-- Abobaker Aknish "Inhibition of corrosion of steel in crude oil storage tanks" (1998).
- 23- Amr Abdelaziz "Inhibition of the corrosion of Aluminum in Perchloric acid solution" (1998).

24- Adel Hashem "Effect of cold work on the corrosion of mild steel in acid medium" (1997).

25- Mohamed Reda "Effect of stirring on the rate of electrodepositing of metals" (1996).

26- Ahmed El.Hafnawy "Pitting corrosion of Nickel" (1993).

Scientific Courses Activities

- 1- A course on principles of corrosion and protections methods (1996)
- 2- A course on principles of corrosion and protections methods (1997)
- 3- A course on principles of corrosion and protections methods (1998)

Short Courses

I have been involved in cooperation with Alexandria University and the industry in Egypt through some short courses about:

- 1- A course on "*Fundamentals materials science*" (1999).
- 2- A course on the "*Thermal analysis and its application in industry*" (1999).
- 3- A course on "*Technical Writing*" (1993) and (1997).
- 4- A course on "*Corrosion in industry and efficiency of materials*" Case study (1992).
- 5- A course on "*Industrial hygiene and safety in petroleum and chemical industry*" (1991).
- 6- A course on "*uses of light and electronic microscope on a study the general materials and polymers specially*" (1991).
- 7- *Winter School* (1991).
- 8- A course on "*Applications of computer in chemical science*" (1990).

Activities

1. **Chairman** and Organizer at "*The 22th Arab International Conference on Materials Science*", Institute of Graduate Studies and Research, Alexandria University, Alexandria, Egypt (**October 2022**)

2. **Chairman** and Organizer at *“The 19th Arab International Conference on Materials Science”*, Institute of Graduate Studies and Research, Alexandria University, Alexandria, Egypt (**December 2019**)
3. **Chairman** and Organizer at *“The 18th Arab International Conference on Materials Science”*, Institute of Graduate Studies and Research, Alexandria University, Alexandria, Egypt (**December 2018**)
4. **Chairman** and Organizer at *“The 17th Arab International Conference on Materials Science”*, Institute of Graduate Studies and Research, Alexandria University, Alexandria, Egypt (**December 2017**)
5. **Chairman** and Organizer at *“The 16th Arab International Conference on Materials Science”*, Institute of Graduate Studies and Research, Alexandria University, Alexandria, Egypt (**December 2016**)
6. **Organized** and successfully Attended *1st international conference on applied chemistry “Chemistry for sustainable world”*, (ICAC), KAU, Jeddah, KSA, (**November 2015**)
7. Member in *Research and Innovation Unit*, Faculty of Science, KAU, Jeddah, KSA (**2015**).
8. Attended *“Forum of scientific faculties for students”*, KAU, Jeddah, KSA (**2015**).
9. Attended and successfully finished workshop about statistical analysis *“SPSS”* KAU, Jeddah, KSA (**2015**).
10. Attended *Royal Society of Chemistry Second Gulf Symposium* on *“The Design and Application of Advanced Materials”*, KAU, Jeddah, KSA, December (**2014**).
11. Attended and successfully finished workshop about *“Endnote”*, KAU, Jeddah, KSA (**2014**).
12. Attended and successfully finished work shop about *“Mobil learning”* and social networks, KAU, Jeddah, KSA (**2014**).
13. Attended a Lecture about *“Web applications”*, KAU, Jeddah, KSA (**2014**).

14. Attended **6th Scientific Forum for students**, Faculty of Science, KAU, Jeddah, KSA (2014).
15. Attended "**The Advances in Biological Sciences Symposium**", IGSR Biotech. Society, Institute of Graduate Studies and Research, Alexandria University, Alexandria, Egypt (August 2013).
16. **Organized and attended the 5th Scientific Forum for students**, Faculty of Science, KAU, Jeddah, KSA (2013).
17. Participated in Scientific Forum in "**Sustainable Development Fields and Goals**" KAU, Jeddah, KSA (2013).
18. Attended **4th Scientific Forum for students**, Faculty of Science, KAU, Jeddah, KSA (2012).
19. Attended and successfully finished the training program on "**Effective Teaching**", Center for Teaching and learning Development, KAU, Jeddah, KSA (2012).
20. Attended and successfully finished work shop on "How to use E - Learning System" "**emes**" KAU, Jeddah, KSA (2012).
21. Attended and successfully finished work shop on "How to use Virtual Classroom System" "**Centra**" (2012).
22. Attended the "**Environmental Forum**" at center of Excellent in Environmental studies (2010).
23. Attended "**First and Second Forum of Scientific for Post Graduates Students**" at Faculty of Science, Jeddah, KSA, (2010).
24. Participate by **oral presentation** "**Inhibition of the acid corrosion of steel by some organic compounds**", National Chemistry Conference - Saudi Chemical Society, Makkah, KSA, April (2007).
25. Participate by **oral presentation** "**Inhibition of the Corrosion of Mild Steel in Neutral Medium by Nitrogen Tetradentate Ligands using AC Impedance**" at "**Sixteenth international conference on corrosion problems in industry**", Alexandria, Egypt (1997).

26. Participate by **oral presentation** "*Acid corrosion inhibition of nickel by some organic macrocyclic compounds*" at "***Fourth international conference on frontiers of polymers and advanced materials***". Alexandria, Egypt, (1997).

❖ Reviewed Articles for:

- British journal of applied science and technology.
- Journal of King AbdulAziz University.

Publications

1. M. E. Mohamed, P. S. Mekhaiel & [F. M. Mahgoub](#), Construction of superhydrophobic Grapheme-based coating on steel substrate and its ultraviolet durability and corrosion resistance properties. **Scientific Reports**, (2023) 13:590 | <https://doi.org/10.1038/s41598-023-27647-8>
2. DM Ragheb, AM Abdel-Gaber, [FM Mahgoub](#), ME Mohamed, Eco-friendly method for construction of superhydrophobic graphene-based coating on copper substrate and its corrosion resistance performance. **Scientific Reports** (2022)12 (1), 1-14
3. Novel and facile method for fabrication of robust superhydrophobic film on copper surface and its chemical, mechanical, and corrosion performance
ME Mohamed, [FM Mahgoub](#), DM Ragheb, AM Abdel-Gaber
Surface Engineering 37 (10), 1255-1265 (2021)
4. A Hefnawy, N Elkhoshkhany, [F Mahgoub](#), M Hussein, Mechanical properties and electrochemical behavior of borosilicate glass system. **Digest Journal of Nanomaterials & Biostructures (DJNB)** 16 (2) (2021)
5. [FM Mahgoub](#), A Hefnawy, E Hameed, Novel Green Corrosion Inhibitor for Mild Steel in Sulfuric Acid, **Protection of Metals and Physical Chemistry of Surfaces** 56 (2), 450-458 (2020)
6. [Fatma M. Mahgoub*](#), Ahmed M. Hefnawy, Eman H. Abd Alrazzaq, Corrosion inhibition of mild steel in acidic solution by leaves and stem extract of *Acacia nilotica*, **Desalination and Water Treatment**, 169 (2019) 49-58, doi: 10.5004/dwt.2019.24681
7. [Lupine extract: A promising eco-friendly corrosion inhibitor](#)
RM Zarraa, FM Mahgoub, A Hefnawy (2019)
8. [F.M Mahgoub](#), A.M Hefnawy, A.M Abo Helwa, M.A Darweesh, Strip Thickness Effect on Scale Thickness and Picklability for "S235JR" **DJ Journal of Engineering Chemistry and Fuel**, Vol. 3(2) pp. 1-8, (2018)

9. [F.M. Mahgoub](#) "Photocatalytic Decomposition of Acid Alizarine Violet N by Using UV/TiO₂/Oxidants", (IJATTMAS), Vol. 4 issue 8, (2018), 27-41.
10. [F. M. Mahgoub](#), Abdel moneum M Ahmed & Mona A. Darweesh "Adsorption Kinetic Study for Removal of Heavy Metal from Aqueous Solution by Natural Adsorbent" (IJATTMAS), vol. 4, issue 8, (2018), pp 1-19.
11. Abdel moneum M Ahmed, Mohammed A Elmorsi, Mona A. Darweesh. [F. M. Mahgoub](#) & Amany MMahmoud "Inhibition of Electropolishing of Steel in the Presence of Different Carboxylic Acids" (IJATTMAS), Vol. 4 issue 5. (2018) 1-19.
12. [F. M. Mahgoub](#), A. Hefnawy, M. EL-Shnawie and A. Esmail, "Preparation and characterization of an emulsion paint based on Arghel extract as an Eco-friendly corrosion inhibitor" *Key Engineering Materials*, ISSN: 1662-9795, Vol. 786, pp 149-158 doi:10.4028/www.scientific.net/KEM.786.149 © (2018) *Trans Tech Publications, Switzerland*
13. [F. M. Mahgoub](#), S.M. Al-Rashdi, "Investigate the corrosion inhibition of mild steel in sulfuric acid solution by Thiosemicarbazide" *Open J Phys Chem* 6, (2016), 54-66.
- 14.A A Ganash, [F. M. Mahgoub](#), "Electrochemical synthesis and corrosion performance of poly o-anisidine on 304 stainless steel" *Protection of Metals and Physical Chemistry of Surfaces* 52 (3), (2016), 555-561
- 15.NA Wazzan, [F. M. Mahgoub](#), "DFT calculations for corrosion inhibition of ferrous alloys by pyrazolopyrimidine derivatives" *Open Journal of Physical Chemistry* 4 (01), (2014), 6-14.
16. [F. M. Mahgoub](#), "Electrochemical Corrosion Behavior of Aluminum in Perchloric Acid" *Open Journal of Physical Chemistry* 3 (04), (2013), 177-188.
17. [F. M. Mahgoub](#), AM Hefnawy "Inhibition Mechanism of Pitting Corrosion of Nickel in Aqueous Medium by Some Macrocyclic Compounds" *Open Journal of Physical Chemistry* 2 (04), (2012), 221-227.

18. [F. M. Mahgoub](#), F. M. Al-Nowaiser and A. M. Al-Sudairi, "Effect of temperature on the inhibition of the acid corrosion of steel by benzimidazole derivatives" *Protection of Metals and Physical Chemistry of Surfaces* 47 (3), (2011), 381.
19. [F.M. Mahgoub](#), B.A. Abdel-Nabey and Y.A. El-Samadis, "Adopting a multipurpose inhibitor to control corrosion of ferrous alloys in cooling water systems" *Materials Chemistry and Physics* 120 (1), (2010) 104-108.
20. [F. M. Mahgoub](#), "Effect of protonation on the inhibition efficiency of thiourea and its derivatives as corrosion inhibitors" *Anti-Corrosion Methods and Materials* 55 (6), (2008), 324-328.
21. GH Sedahmed, MA Khatib, [F. M. Mahgoub](#), MR Al-Azzony, "Solid-liquid mass transfer at the base of a rectangular agitated vessel" *Chemical Engineering Communications* 191 (2), (2004)168-181.
22. MA Khalifa, M El-Batouti, [F. M. Mahgoub](#), A Bakr Aknish, "Corrosion inhibition of steel in crude oil storage tanks" *Materials and Corrosion*, 54 (4), (2003). 251-258
23. N.Khlil, [F.M. Mahgoub](#), B. Abd-El-Nabey and, A. Abdel-Aziz. "Corrosion of aluminium in perchloric acid in presence of various inorganic additives" *Corrosion engineering, science and technology* 38 (3), (2003), 205-210.
24. [F.M. Mahgoub](#), BAA El-Nabey, SA El-Kharashi, M Atteya, MS Ramadan, "Inhibition of corrosion of steel in produced water of Western Desert crude oil" *Journal of applied electrochemistry* 32 (7), (2002), 775-781.
25. MK Awad, [F.M. Mahgoub](#), MM El-Iskandarani, "Theoretical studies of the effect of structural parameters on the inhibition efficiencies of mercapto-1, 2, 4-triazoline derivatives" *Journal of Molecular Structure: THEOCHEM* 531 (1-3), (2000), 105-117.

26. [F.M. Mahgoub](#), BA Abd-El-Nabey, M Khalifa, A. El-Hefnawy, "Acid Corrosion Inhibition of Nickel by Some Organic/Macrocyclic Compounds" *Science and Technology of Polymers and Advanced Materials*, (1998), 175-184.
27. [F. M. Mahgoub](#), B. A. ABD-EL-Nabey, G.E.Thompson *and* S.Turgoose, "Inhibition of the Corrosion of Mild Steel in Neutral Medium by Nitrogen Tetradentate Ligands using AC Impedance." Sixteenth international conference on corrosion problems in industry. Egypt, (1997).
28. BA El-Nabey, M El-Gamal, E Khamis, [F.M. Mahgoub](#), Acid corrosion of steel in water-dimethyl formamide solutions *Surface and Coatings Technology* 31 (1), (1987) 89-101.
29. BA Abd-El-Nabey, A El-Toukhy, M El-Gamal, [F. M. Mahgoob](#), 4-amino-3-substituted-5-mercapto-1, 2, 4-triazolines as inhibitors for the acid corrosion of steel, *Surface and Coatings Technology* 27 (4), (1986) 325-334.

Name: Fatma Mahgoub

Signature:

Date:

References and all other relevant documents will be furnished upon request