

CURRICULUM VITAE

Full Name: Marwa Mohamed Reda Mohamed Elmahdy

Personal Information:

Academic Rank: Associate Professor

Department: Mechanical Engineering

Specialization: Production engineering and
Mechanical design

Position:



Google Scholar: <https://scholar.google.com/citations?hl=ar&user=msqdmj8AAAAJ>

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Education:

Degree	Discipline	Institution	Year
Aso. prof	Production engineering and Mechanical design	Manufactur engineering and Mechanical design	2024
Ph.D.	Production engineering and Mechanical design	Minia university	2018
M.Sc.	Production engineering and Mechanical design	Zagazig university	2012
B.Sc.	Production engineering and Mechanical design	Minia university	2006

Academic Experiences:

Institution: Higher Technological institute, 10th of Ramadan City

Date: 2009

Research interests:

- Materials Engineering
- Nano composites
- Metal matrix composites
- Metallurgy

Publications:

1. Hossein Ahmadian, Tianfeng Zhou, Weijia Guo, Qian Yu, A.M. Sadoun, A.Fathy, Yang Xuanzhe, **M. Elmahdy**. (2025). Influence of Initial Surface Roughness on the Deposition and Adhesion of Electroless Ni-P Plating on 6H-SiC Substrate
2. Mamdough I. Elamy, Mohamed Abd Elaziz, Mohammed Azmi Al- Betar A. Fathy , **M. Elmahdy**. (2024). Enhanced Random Vector Functional Link Based on Artificial Protozoa Optimizer to Predict Wear Characteristics of Cu-ZrO₂ Nanocomposites.
3. Hossein Ahmadian, Tianfeng Zhou, A. Alansari, A. Senthil Kumar, A. Fathy, **M. Elmahdy**, Qian Yu, Guo Weijia. (2024). Microstructure, mechanical properties and wear behavior of Mg matrix composites reinforced with Ti and nano SiC particles.
4. A.M. Sadoun, I.M.R. Najjar, A. Fathy, Mohamed Abd Elaziz , Mohammed A.A. Al-qaness , A.W. Abdallah , **M. Elmahdy**. (2023). An enhanced Dendritic Neural Algorithm to predict the wear behavior of alumina coated silver reinforced copper nanocomposites. Alexandria Engineering Journal. Volume (2023) 65, 809–8231.
5. Ghazi S. Alsuruji 1, Ayman M. Sadoun 1 and **Marwa Elmahdy**. (2022). Microstructure-Based Modeling and Mechanical Characteristics of Accumulative Roll Bonded Al Nanocomposites with SiC Nanoparticles. Metals, 2022, 12, 1888.

6. Ismail R. Najjar, Ayman M. Sadoun, Adel Fathy, Ahmed W. Abdallah, Mohamed Abd Elaziz and **Marwa Elmahdy**. (2022). Prediction of Tribological Properties of Alumina-Coated, Silver-Reinforced Copper Nanocomposites Using Long Short-Term Model Combined with Golden Jackal Optimization. *Lubricants*, 2022, 10, 277.
7. Ismail R. Najjar, **Marwa Elmahdy**. (2022). Study of mechanical properties and wear resistance of nanostructured Al1100/TiO₂ nanocomposite processed by accumulative roll bonding. *Journal of Composite Materials*. Volume 56 Issue 17, July 2022.
8. M.Ali. A.M.Sadoun, **M.Elmahdy**, G.Abouelmagd, Asaad A.Mazen (2022) Development and performance analysis of novel in situ Cu–Ni/Al₂O₃ nanocomposites. Volume 48, Issue 16, 15 August 2022.
9. M.Ali, A.M.Sadoun, G.Abouelmagd, Asaad A.Mazen, **M.Elmahdy**.(2021) Microstructure and mechanical characterization of Cu–Ni/Al₂O₃ nanocomposites fabricated using a novel in situ reactive synthesis. Volume 48, Issue 5, 1 March 2022.
10. A.M.Sadoun, A.W.Abdallah, I.M.R.Najjar, Muhammad Basha, **M.Elmahdy**. (2021). Effect of lattice structure evolution and stacking fault energy on the properties of Cu–ZrO₂/GNP nanocomposites. Volume 47, Issue 21, 1 November 2021. Pages 29598-29606.
11. Abd-Elwahed, M. S., Sadoun, A. M., & **Elmahdy, M.** (2020). Electroless-plating of Ag nanoparticles on Al₂O₃ for enhanced mechanical and wear properties of Cu–Al₂O₃ nanocomposites. *Journal of Materials Research and Technology*, Volume 9, Issue 6, November–December 2020. 9(6), 13749-13758.
12. Abd-Elwahed, M. S., Ibrahim, A. F., & **Reda, M. M.** (2020). Effects of ZrO₂ nanoparticle content on microstructure and wear behavior of titanium matrix composite. *Journal of Materials Research and Technology*, 9(4), 8528-8534.
13. Meselhy, A. F., & **Reda, M. M.** Investigation of mechanical properties of nanostructured Al-SiC composite manufactured by accumulative roll bonding. *Journal of Composite Materials*, (2019)1-11.

14. **Elmahdy, M.**, Abouelmagd, G., & Mazen, A. A. E. Microstructure and Properties of Cu-ZrO₂ Nanocomposites Synthesized by in Situ Processing. Materials Research, (2018)21(1).
15. **Elmahdy, M.**, Abouelmagd, G., & Mazen, A. A. Investigation on microstructure and thermal properties of in-situ synthesized Cu-ZrO₂ nanocomposites. International Journal of Materials Research, 108(12) (2017) 1103-1107.
16. **Marwa Elmahdy**, Gamal Abouelmagd, Asaad A. Mazen, In-Situ Preparation and Properties of Copper Matrix Composites Reinforced by ZrO₂ Nanoprticles, Minia Journal of Engineering and Technology, (2017)1-12.
17. Fathy, A., Shehata, F., Abdelhameed, M., & **Elmahdy, M.** Compressive and wear resistance of nanometric alumina reinforced copper matrix composites. Materials & Design, 36(2012)100-107.
18. Shehata, F., Abdelhameed, M., Fathy, A., & **Elmahdy, M.** Preparation and characteristics of Cu-Al₂O₃ nanocomposite. Open Journal of Metal, 1(02) (2011)25.

Courses Taught:

- Machine Design (1&2)
- Manufacturing processes
- Material Engineering
- Composite Material Technology
- Advanced Material Science
- Engineering Material and Metallurgy
- Engineering and Mechanical Drawing (A)
- Engineering and Mechanical Drawing (B)
- Production Technology
- Material Testing.