

## Personal Information



## Amal Zaher Shehata Mohamad

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Sex Female | Date of birth 06/03/1978 | Nationality Egyptian

## Academic Information

2000

•B. Sc. Honors degree in Chemical Engineering, Chemical Engineering Department, Faculty of Engineering, Minia University, Egypt.

2006

•M. Sc. in Chemical Engineering Department, Faculty of Engineering, Minia University, Egypt.  
*Title "A New Technology for Treatment of Oil-Polluted Wastewater"*

2012

•Ph.D. in Chemical Engineering Department, Faculty of Engineering, Minia University, Egypt.  
*Title "Advanced process for oily water treatment :statistical optimization"*

## POSITION

**Associated professor in chemical engineering, Department of Environmental Science and Industrial Development, Faculty of Postgraduate Studies for Advanced Sciences, Beni-Suef University, Egypt.**

## WORK EXPERIENCE

2000 - 2002

Free engineer

2002 - 2016

Specialist in safety and occupational health ,Manpower and immigration, Minia,Egypt

2013- 2022

Assistant professor, Environmental science and industrial development (ESID) Dep., PSAS Faculty, Beni-Suef University (BSU), Egypt.

- 2016-2018** Director of the training unit in the PSAS Faculty, Beni-Suef University (BSU), Egypt.
- 2019-now** Director of the training committee in the PSAS Faculty, Beni-Suef University (BSU), Egypt.
- 2022-now** Associated professor, Environmental science and industrial development (ESID) Dep., PSAS Faculty, Beni-Suef University (BSU), Egypt.

<b>Amal Zaher, Beni-Suef University</b>	<b>H-index</b>	<b>Citations</b>
<b>Scopus ID: 8922238500</b>	<b>13</b>	<b>520</b>
<b>ORCID: 0000-0001-6004-920X</b>	<b>From Scopus 2-3-2026</b>	

- Number of theses supervised: 22  
 18 Master  
 4 PhD

### Teaching Experience for Dr. Amal Zaher

**Teaching and Research Assistant in the Environmental Sciences and Industrial Development Department, Faculty of Post Graduate Studies for Advanced Sciences , Beni-Suef University, Egypt, Tutoring and evaluating undergraduate students in the following courses:**

- Biogas technology
- Renewable energy and society
- Clean water technology
- Health, Safety & Environmental Management
- Green chemistry
- Cement and environmental effect
- Environmental management system
- Environmental laws and legislatives

## Publication

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### **40 research papers published in international journals**

1. **A. Zaher**, Aghareed M.Tayeb, Maha A. Tony” Using Advanced Oxidation process for oily water clean –up” National conference for academic disciplines, Las Vegas, Nevada, USA 2006.
2. Aghareed M.Tayeb, Maha A. Tony, **Amal Z.** Shehata” Optimization Of a Simulated Photo-Fenton Process for Treating Olive Mill Wastewater” 9th International Conference on Modeling Simulation and Visualization Methods.2012
3. **Amal Zaher**, Waleed M.A.El Rouby, Nasser A.M.Barakat”Influences of tungsten incorporation, morphology and calcination temperature on the electrocatalytic activity of Ni/C nanostructures toward urea elimination from wastewaters”.International journal of hydrogen energy 45 (15), 8082-8093
4. **Amal Zaher** & Mohamed Taha & Ahmed Ali Farghali & Rehab Khaled Mahmoud. “Zn/Fe LDH as a clay-like adsorbent for the removal of oxytetracycline from water: combining experimental results and molecular simulations to understand the removal mechanism.”Environmental Science and Pollution Research 27 (11), 12256-12269.
5. **Amal Zaher** “Photocatalytic Degradation of Phenol wastewater: Optimization of Photo Fenton Process”. Egyptian Journal of Chemistry 63 (11), 4439-4445.
6. **Amal Zaher**, Waleed M.A.El Rouby, Nasser A.M.Barakat “Tungsten incorporation in nickel doped carbon nanofibers as efficient electrocatalyst for ethanol oxidation.” Fuel 280, 118654
7. **Amal Zaher**, Mohamed Taha, Rehab K. Mahmoud “Possible adsorption mechanisms of the removal of tetracycline from water by La-doped Zn-Fe-layered double hydroxide”Journal of Molecular Liquids 322 (2021) 114546. DOI: 10.1016/j.molliq.2020.114546
8. Mofteh Essa Elkartehi, Rehab Mahmoud, Nabila Shehata, Ahmed Farghali, Shimaa Gamil, **Amal Zaher** “ LDH Nanocubes Synthesized with Zeolite Templates and Their High Performance as Adsorbents.”Nanomaterials 11 (12), 3315

9. Rehab K Mahmoud, Mohamed Taha, **Amal Zaher**, Rafat M Amin Understanding the physicochemical properties of Zn–Fe LDH nanostructure as sorbent material for removing of anionic and cationic dyes mixture. *Scientific reports* 11 (1), 1-19
10. **Amal Zaher**, Heba Elkouly” Photocatalytic degradation of dye wastewater with ZnO nanoparticle : Optimization.” *Journal of International Society for Science and Engineering* .accepted.
11. Mahgoub, Samar M., Mohamed R. Shehata, Fatma L. Abo El-Ela, Ahmed Farghali, **Amal Zaher**, and Rehab K. Mahmoud. "Sustainable waste management and recycling of Zn–Al layered double hydroxide after adsorption of levofloxacin as a safe anti-inflammatory nanomaterial." *RSC Advances* 10, no. 46 (2020): 27633-27651.
12. Tayeb, Aghareed M., Rania Farouq, **Amal Z. Shehata**, and Reham H. Othman. "Enhanced solar desalination units." *Proceedings of the Institution of Civil Engineers-Energy* 173, no. 4 (2020): 167-176.
13. Ahmed, Said, Hamada Mahmoud, Heba I. Elkhoully, Abdel Hakeem El. and **Amal Zaher** "Improvement the Quality of Carpet Industry by Using Statistical and Six Sigma Methodology." (2020).
14. **Amal Zaher** and Nabila Shehata, “Recent Advances and Challenges in Management of Urea Wastewater: A Mini Review”, *IOP Conf. Series: Materials Science and Engineering* 1046 (2021) 012021. doi:10.1088/1757-899X/1046/1/012021
15. Hanna Awes, Zinat Zaki, Safa Abbas, Hassan Dessoukii, **Amal Zaher**, Samah A Abd-El Moaty, Nabila Shehata, Ahmed Farghali, Rehab K Mahmoud. “Removal of Cu 2+ metal ions from water using Mg-Fe layered double hydroxide and Mg-Fe LDH/5-(3-nitrophenyllazo)-6-aminouracil nanocomposite for enhancing adsorption properties”, *Environmental Science and Pollution Research*, 2021. <https://doi.org/10.1007/s11356-021-13685-0>
16. Ahmed, Said, Hamada Mahmoud, Abdel Hakeem and **Amal Zaher**. “Application of Quality Control Tools in a Carpet Industry: A Case Study” (2022). *Trends in Sciences*, 19(14), 5095-5095.
17. Mahgoub, Samar M., Mohamed R. Shehata, **Amal Zaher**, Fatma L. Abo El-Ela, Ahmed Farghali and Rehab K. Mahmoud.” Cellulose-based activated carbon/layered double hydroxide for efficient removal of Clarithromycin residues and efficient role in the treatment of stomach ulcers and acidity problems” *International Journal of Biological Macromolecules*, 215, 705-728

18. Elkartehi, M. E., **Zaher, A.**, Farghali, A., MA, M., Mahmoud, R., & Shehata, N. (2023). Antibacterial activities of layer double hydroxide nanocubes based on Zeolite templates and its high performance as a disinfectant. *Egyptian Journal of Chemistry*, 66(3), 265-270.
19. Mahmoud, N. A., Abdelhameed, R. M., El-Gendy, A. O., & **Zaher, A.** (2023). Utilization of Polyacrylonitrile Waste Fibers in Metal-Organic Framework Matrix for Forming Bioactive Composites Film. *Egyptian Journal of Chemistry*, 66(9), 353-361.
20. Nassar, H.F., Shaban, A., **Zaher, A.**, ...Abdelhameed, R., Mahmoud, R. "Iron-Trimesic Metal Organic Frameworks as Nano-Adsorbents for Tetracycline and Ceftriaxone Contaminated Wastewater Effluents." *Egyptian Journal of Chemistry* 66.7 (2023): 439-449.
21. Abd Elnaby, Z., **Zaher, A.**, Abdel-Magied, R. K., & Elkhoully, H. I. (2023). Improving plastic manufacturing processes with the integration of Six Sigma and machine learning techniques: a case study. *Journal of Industrial and Production Engineering*, 1-18
22. Mahmoud, R., Kotb, N. M., GadelHak, Y., El-Ela, F. I. A., Shehata, A. Z., Othman, S. I., ... & **Zaher, A.** (2024). Investigation of ternary Zn–Co–Fe layered double hydroxide as a multifunctional 2D layered adsorbent for moxifloxacin and antifungal disinfection. *Scientific Reports*, 14(1), 806.
23. Kamel, M., Abd El-Fatah, G., **Zaher, A.**, Farghali, A. A., Othman, S. I., Allam, A. A., ... & Mahmoud, R. (2024). Cost-effective layered double hydroxides/conductive polymer nanocomposites for electrochemical detection of wastewater pollutants. *Chinese Journal of Analytical Chemistry*, 100368.
24. Mahmoud, R., Eldin, Z. E., Khalifa, A., Anwar, A. A. A., GadelHak, Y., Othman, S. I., ... & **Zaher, A.** (2024). Antifungal and antibacterial investigation of quinary Zr Al Fe Co Ni layered double hydroxide and its Al Fe Co Ni quaternary and Fe Co Ni tertiary roots. *RSC advances*, 14(21), 14815-14834.
25. **Zaher, A.**, Kamal, W., Essam, D., Yousry, E. M., & Mahmoud, R. (2024). Repurposing Co-Fe LDH and Co-Fe LDH/Cellulose micro-adsorbents for sustainable energy generation in direct methanol fuel cells. *Journal of Water Process Engineering*, 62, 105317.
26. Taha, M., Kamal, W., Essam, D., Kotp, A. A., Salah, A. M., El-Fatah, G. A., **Zaher, A.** & Mahmoud, R. (2024). Co/Ni/Cu-NH<sub>2</sub>BDC MOF@ natural Egyptian zeolite ore nanocomposite for calcium ion removal in water softening applications. *Environmental Science and Pollution Research*, 31(60), 67577-67593.
27. Taha, M., Essam, D., Kotp, A. A., Salah, A. M., El-Fatah, G. A., GadelHak,

- Y., **Zaher, A** & Mahmoud, R. (2024). Calcium ions electrochemical detection by Cu-Fe LDH/cysteine-based nanocomposite for water softening applications. *Journal of Nanoparticle Research*, 26(6), 124.
28. Reyad, A., Abdelwahab, N. S., Mahmoud, H., Abo El-Ela, F., Abd El-Fatah, G., Gadelhak, Y., **Zaher, A** & Mahmoud, R. (2024). Layered double hydroxide/conductive polymer nanocomposites: Toward multifunctional biocompatible nanoadsorbents for wastewater treatment applications. *Separation Science and Technology*, 59(15), 1294-1311.
29. Bady, M., Hassanien, H. M., Khaled, R., **Zaher, A.**, Hassan, A., Ahmed, A. T., & Mahmoud, E. R. (2025). Tracking ground water quality changes in Wadi El-Assiuti, Assiut, Egypt. *Water Practice & Technology*, 20(1), 256-274.
30. Aita, S. A., Mahmoud, R., Hafez, S. H., & **Zaher, A.** (2025). Investigating adsorption of aqueous heavy metals through isotherms and kinetics with Zn-Co-Fe/LDH for remarkable removal efficiency. *Applied Water Science*, 15(4), 75.
31. Goda, M. S., Shehata, N., Shaltout, M. H., & **Zaher, A.** (2025). Emerging Contaminants Removal Using ZnO Nanoparticles: Adsorption of Tetracycline and Ciprofloxacin. *ChemistrySelect*, 10(20), e05432.
32. Mostafa, H., **Zaher, A.**, Seliem, M. K., & Shehata, N. (2025). New insights into the management of hard water using bentonite: experimental and statistical physics treatment. *Water Practice & Technology*, 20(5), 1071-1089.
33. Mahmoud, A., El-Ela, F. I. A., Mahmoud, R., Shehata, A. Z., Abd El-Raheem, H., Salama, E., ... & **Zaher, A.** (2025). Eco-friendly moxifloxacin removal using date seed waste and Ni-Fe LDH: Adsorption efficiency and antimicrobial potential. *Ecotoxicology and environmental safety*, 297, 118256.
34. Taha, H., **Zaher, A.**, & Shehata, N. (2025). Optimization and kinetic modeling of ciprofloxacin adsorption and photocatalytic degradation in water. *Scientific Reports*.
35. Mahgoub, S. M., Allam, A. A., Mohamed, H., Rudayni, H. A., Mahmoud, R., Khaled Mohammed, K., & **Zaher, A.** (2025). Valorization of Spent Bio-Adsorbents into High-Performance Eco-Friendly Anodes for Direct Urea Fuel Cells. *Catalysts*, 15(12), 1113.
36. Elmesery, A., Mahmoud, R., Younes, H. A., **Zaher, A.**, Othman, S. I., Allam, A. A., ... & Elshobary, M. E. (2026). Zero-waste biotechnological approach: bioremediation of oxytetracycline and congo red using *Chlorella vulgaris* biomass with subsequent biodiesel recovery. *3 Biotech*, 16(1), 53.
37. **Zaher, A.**, Rudayni, H. A., Allam, A. A., Elrafey, A., Moustafa, H. M., Mahgoub, S. M., ... & Mahmoud, R. (2026). Calcined Cuttlefish Bone as a High-efficiency Biosorbent for the Production of Sustainable Energy in Ethanol Fuel Cells. *International Journal of Environmental Research*, 20(2), 90.

## **Book Chapter :**

1. Mahmoud, R., Abdel-Hady, E. E., Mohamed, H. F., Ibrahim, M., Abd El-Fatah, G., **Zaher, A.**, & Gadelhak, Y. (2024). Nanomaterials for Electrochemical Sensing of Heavy Metals in Wastewater Streams. In *Handbook of Nanosensors: Materials and Technological Applications* (pp. 1219-1242). Cham: Springer Nature Switzerland.\_
2. Ali, I. H., Abd El-Raheem, H., Youssef, A. F., Farghali, A., Hafez, S. H., **Zaher, A.**, ... & Mahmoud, R. (2025). Nanofibres for medical and healthcare applications. In *Technical Organic and Inorganic Fibres from Natural Resources* (pp. 313-350). Elsevier Science Ltd.

## **Activity**

**1- participation in the Needs Assessment Survey for the Masters of Science in Sustainable Water Resource Management, designed by Utah State University.**

2- Program coordinator for quality control program.( faculty of Postgraduate studies for Advanced Sciences, Beni-Suef University.)

3- Preparing a diploma program for occupational safety and health ( faculty of Postgraduate studies for Advanced Sciences, Beni-Suef University.)

4- Preparing a Professional Master's Program in Occupational Safety and Health (faculty of Postgraduate studies for Advanced Sciences, Beni-Suef University.)

5- Training unit manager

6- Supervising for Master and PhD degrees.

7- Reviewer in many international journals :

- RSC-advances-

- Fuel journal -Elsevier
- Advanced powder technology - Elsevier
- 2020 International Conference on Energy Engineering and Environmental Protection – ref no EEEP 52534.

### Project

1. Member of project under the title of “Advanced removal of selected pharmaceutical residues from wastewater using nano-metal/organic frameworks (MOFs) and their modification to nanocomposite using green synthesis approach”. Beni-suef University,(40,000 LE ),2019.
2. Member of project under the title of “Fabrication of hybrid treatment and desalination system for oily wastewater treatment using MOFs composites: Experimental and computational studies.” USA (50,000 \$).

### Professional Membership

Member of Institute for Engineering Research and Publication

### Community Services

1. Participate in the EIA for some industrial regions in Beni-Suef
2. Member of Arab Federation for Specialized Women.

### Training & Workshops

No.	Activity	Role	Time	Venue
1	The first international and exhibition on sustainable water supply and sanitation (SWSSC 10)	Attending	25-27 July 2010	Cario
2	Modules at Faculty and leadership Development Centre , Beni-Suef University: <ul style="list-style-type: none"> <li>• University managment</li> <li>• Strategic Planning</li> <li>• Use of technology in teaching</li> <li>• University legal and financial aspects</li> <li>• Organizing scientific conferences</li> </ul>	Trainee	2016	Beni-Suef

- Competitive research projects

3	The photovoltaic system and their applications indoor and outdoor” workshop,	Trainee	14-16 Feb. 2015	Beni-suef
4	The international conference of Environmental Security and Global Climate Change (ESGCC-I)	Organizer	10-12 Apr. 2016.	Beni-Suef
5	Symposium “economic impact of scientific research from the economic knowledge: the case study of EPRP”	Attending	27 Nov. 2016	Beni-Suef
6	The 4 <sup>th</sup> International Conference of Advanced Applied Sciences (ICAS4)	Organizer	7 -10 Nov. 2017	Hurghada
7	Workshop “how to transfer your research results to commercial idea?”	Trainee	18 Feb. 2017	Beni-Suef
8	Education programs and Courses Specifications and Evaluation of Learning Outcomes for H.E. institutes	Trainee	2-4 May 2017	Beni-Suef
9	Modules at Faculty and leadership Development Centre , Beni-Suef University: <ul style="list-style-type: none"> <li>• Ethical conduct and code of ethics</li> <li>• Strategic Planning</li> <li>• Integrity, transparency and anti-corruption</li> <li>• Organizing scientific conferences</li> </ul>	Trainee	2017-2018	Beni-Suef
10	Symposium “how to write research proposal, how to write a review article and publishing process”	Trainee	10 Feb. 2018	Beni-Suef
11	Workshop “statistical data analysis”	Trainee	25 Mar. 2018	Beni-Suef
12	The 2 <sup>nd</sup> international conference of the ESID department, PSAS Faculty, BSU, Egypt.	Organizer	22 Apr. 2018	Beni-Suef
13	Session organized be Egyptian Knowledge bank “enhancing your research using NANO research solution”	Attending	5 Sep. 2018	Beni-Suef
14	Workshop “recent advances in renewable energy technologies III”	Trainee	9 Dec. 2018	Beni-Suef
15	The 5 <sup>th</sup> International Conference of Advanced Applied Sciences (ICAS5)	Organizer	9 -12 Nov. 2019	Hurghada

16	Master classes organized by Nature “masterclass in scientific writing and publishing”	Trainee	2019	Beni-suef
17	Moodle LMS Training in EPU- CoE for water.	Trainee	2021	Beni-suef
18	Modules of the Fundamentals of Digital Transformation Certificate :	Trainee	2021	Beni-Suef
	<ul style="list-style-type: none"> <li>• Word Processing</li> <li>• IT</li> <li>• Presentation</li> </ul>			
19	Modules at Faculty and leadership Development Centre , Beni-Suef University:	Trainee	2021-2024	Beni-Suef
	<ul style="list-style-type: none"> <li>• Ethical conduct and code of ethics</li> <li>• Integrity, transparency and anti-corruption</li> <li>• Competitive research projects</li> <li>• University legal and financial aspects</li> </ul>			
20	ISO50001-2018 International Standard for Energy Management Systems	Trainee	11/2022-3/2023	Cario
21	ISO9001-2015 International Standard for Quality Management Systems.	Trainee	12/2022 - 1/2023.	Cario
22	ISO37000 International Standard for Governance Management Systems	Trainee	12/2022 - 2/2023.	Cario