

# Prof. MAHMOUD MOHAMED ELEWA

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📍: Arab Academy for Science, Technology and Maritime Transport, P.O. Box 1029, Alexandria, Egypt.

## PROFILE SUMMARY

- **PhD Professional** with over 30 years of experience in:
  - Project Management
  - Business Finance
  - Kaizen Process Operations
  - International Business
  - OSHA Operations
  - Internal Audit
  - Social Accountability
  - Organizational Behaviour
  - Strategic Management
- Creative and Multi-disciplinary Executive renowned for **swiftly completing up projects** with competent cross-functional skills and ensuring on-time deliverables within pre-set cost parameters.
- Deft in implementing **stringent production systems and quality plans** to ensure high-quality standards during all the stages of the project life cycle while leading product designing resources for resolution of technical issues.
- Functional expertise in **project design, estimation, planning and scheduling for onshore and offshore EPC Oil & Gas and Power Plant projects.**
- Proven track record of **significant improvements in productivity, quality and efficiency improvement while reducing costs, lowering turnover & maintaining a positive work environment.**
- Adept at conducting **HSE Site Audits** as well as implementing Health Safety Environment Management Systems through the evolution of **HSE plans and safe operating procedures for various projects following the global standards and requirements of the client.**
- Functional expertise in **implementing project plans and monitoring progress as per scheduled deadlines for various tasks** and taking necessary steps to ensure completion within time, cost & effort parameters with a team of Engineers, Supervisors, Inspectors and a minimal workforce.
- Championed as a Certified Internal **Quality Auditor, proficient in applying quality control measures with an excellent understanding of the industry and technology trends.**
- Skilled at teaching as a **professor** in the **Engineering Faculty for Postgraduates and Undergraduates and supervising 21 M.Sc. and PhD theses.**
- Proved resourcefulness as a **consultant for Tier 1 and 2 companies** across the **oil and gas, petrochemicals, and manufacturing industries.**
- Proven leader with exceptional leadership, analytical, problem solving and people management skills.

## WORK EXPERIENCE

**2014 to present**      **Arab Academy for Science, Technology and Maritime Transport (AAST), Alexandria, Egypt**  
**Head of Scientific Projects, grants and Research.**

**2013 to 2014**      **Alexandria Fibre Co., Alexandria, Egypt as Senior Vice President-Operations**

*Responsible for directing the respective directors and senior managers and function heads of Production, QA and QC, Engineering, Utilities and HSE, Unit HR, Marketing, and Supply Chain, along with the day-to-day management of the company and the efficient operation and maintenance of the plant. Developed business policies and company procedures necessary for the safe and efficient running of the company and ensured that the plant complies with all local regulations and requirements, including the standards and requirements of all applicable Environmental Laws, while managing the O&M subcontract for the facility.*

**2009 to 2013**      **Arab Academy for Science, Technology and Maritime Transport (AAST), Alexandria, Egypt**  
**Growth Path:**

**2010 to 2013: Director of Applied Research Centre**

*Directing the respective managers and heads of Education, Laboratories, R&D, Workshops, QA/QC, Maintenance, Health, Safety and Environmental, Planning, Procurement, Projects, Cost Controlling, reporting and Document Control Sub-Departments. Led the day-to-day activities of the Research Centre using LEAN process methodologies. Ensured that all re-bids with existing Clients were proactively managed and priced competitively and negotiated with potential and existing clients as appropriate, maximizing revenue, profit, and margin while measuring and managing KPI performance to ensure that contractual commitments were met.*

**2009 to 2010: Head of the R&D Department**

*Provided leadership and management for AAST-wide R&D programs and activities besides supervising the science and research aspect of expeditions and, including staff, communications, project and scientific reporting, and promotion.*

Promoted the scientific activities for AAST in Egypt and overseas, identified funding and work opportunities and developed sponsorship and promotional activities.

Identified sponsorship and grant opportunities, liaised with existing and potential donors, and prepared proposals for donor funding and sub-contracts in collaboration with international partners and paid staff.

#### **2008 to 2008 Qatargas, Doha, Qatar as Operations Director – Oil & Gas Division**

Responsible for leading the respective managers of business development, industrial projects, EHS, planning, and cost control sub-departments and ensuring the implementation of all guidelines set by the board of directors. Managed and developed the company's operation and achieved a sustainable competitive advantage within the local market.

#### **2007 to 2008 Industrial Modernization Centre (IMC), Cairo, Egypt as Innovation R&D Programme Director**

Planned, directed and controlled various R&D projects in renewable energy, water and wastewater, water desalination, energy management, engineering, Environmental, Chemical, pharmaceutical, food, agriculture, nanotechnology, etc., while preparing a suggested set of Call for Proposals materials and details. Identified, coordinated, and approved the final draft for the Call for Proposals materials and details together with the MHESR R&D Project Coordination Committee.

#### **1998 to 2007 Pirelli Tire Alexandria, Alexandria, Egypt**

##### **Growth Path:**

2001 to 2007: Operations Director

1998 to 2001: Planning and Logistics Manager

#### **1995 to 1998 Alex Pet. Co., Alexandria, Egypt as Senior Process Engineer**

##### **EDUCATION**

- PhD in Chemical Engineering from Alexandria University in 2005  
Thesis Title: "Desalination by "Sweeping-gas Pervaporation using Cellulose-based and Synthetic Polymer Membranes
- M.Sc. in Chemical Engineering from Alexandria University in 1997
- B.Sc. in Chemical Engineering from Alexandria University in 1991

##### **PERSONAL DOSSIER**

Date of Birth: 25<sup>th</sup> June 1967

Nationality: Egyptian

Languages Known: Arabic, English, Italian, and French

##### **PUBLICATIONS**

- Abeer Moneer, Ahmed El-Shafei b, Mona Naim, Mahmoud M. Elewa (2024) Green emulsion liquid membrane for desalination: Prototype and techno-economic evaluation **Desalination**, 117535, <https://doi.org/10.1016/j.desal.2024.117535>
- EH El-Mossalamy, Nouf F Al-Harby, S Abdel Aal, NM Ali, M El-Desawy, Mahmoud M Elewa, Mervette El Batouti (2024) Tenability on Schiff base Hydrazone derivatives and Frontier molecular orbital **Heliyon**, 10 (2), e24472, <https://doi.org/10.1016/j.heliyon.2024.e24472>
- NF Al-Harby, M El Batouti, MM Elewa (2023) A Comparative Analysis of Pervaporation and Membrane Distillation Techniques for Desalination Utilising the Sweeping Air Methodology with Novel and Economical Pervaporation **Polymers** 15 (21), 4237, <https://doi.org/10.3390/polym15214237>
- Mahmoud M. Elewa, Mervette El-Batouti, Nouf F. Al Harby (2023) A Comparison of Capacitive Deionization and Membrane Capacitive Deionization Using Novel Fabricated Ion Exchange Membranes **Materials**, 16(13), 4872, <https://doi.org/10.3390/ma16134872>
- Mahmoud M. Elewa, Omar Ramadan, Mahmoud A. El-Emam, Abdelaziz I. Omara (2023) Simulation Of Desalination Of Salt Water Comprising Polypropylene Hollow Fibre **Membranes Misr J. Ag. Eng.**, 40 (2): 139 - 160, <https://doi.org/10.21608/mjae.2023.188580.1095>
- Mahmoud Badawy Elsheniti, Amr Ibrahim, Osama Elsamni, Mahmoud Elewa (2023) Experimental and Economic Investigation of Sweeping Gas Membrane Distillation/Pervaporation Modules using Novel Pilot Scale Device **Separation and Purification Technology**, 123165, <https://doi.org/10.1016/j.seppur.2023.123165>
- Mona M. Naim, Mervette El Batouti, Mahmoud M. Elewa (2022) Novel heterogeneous cellulose-based ion-exchange membranes for electrodialysis **Polymer Bulletin** 79, 9753–9777 <https://doi.org/10.1007/s00289-021-03978-2>
- Mervette El-Batouti, Mona M. Naim, Nouf F. Al Harby, Mahmoud M. Elewa (2022). An Investigation into a Miniature Saltless Solar Pond **Materials** 15(17), 5974; <https://doi.org/10.3390/ma15175974>
- Naim, M.M.; Al-harby, N.F.; El Batouti, M.; Elewa, M.M. (2022). Macro-Reticular Ion Exchange Resins for Recovery of Direct Dyes from Spent Dyeing and Soaping Liquors. **Molecules** 2022, 27, 1593. doi: [10.3390/molecules27051593](https://doi.org/10.3390/molecules27051593)
- Ghazouani, N.; Bawadekji, A.; El-Bary, A.A.; Becheikh, N.; Alassaf, Y.; Hassan, G.E.; Elewa, M.M. (2022). Greenhouse Desalination by Humidification–Dehumidification Using a Novel Green Packing Material. **Water**, 14, 869. doi: [10.3390/w14060869](https://doi.org/10.3390/w14060869)
- Nejib Ghazouani, Alaa A. El-Bary, Gasser E. Hassan, Nidhal Becheikh, Abdulhakim Bawadekji, Mahmoud M. Elewa (2022) Solar Desalination by Humidification–Dehumidification: A Review **Water** 2022, 14(21), 3424; <https://doi.org/10.3390/w14213424>

- Nouf F. Al Harby, Mervette El-Batouti, Mahmoud M. Elewa (2022) Prospects of Polymeric Nanocomposite Membranes for Water Purification and Scalability and their Health and Environmental Impacts: A Review *Nanomaterials* 2022, 12(20), 3637; <https://doi.org/10.3390/nano12203637>
- El Batouti, M.; Alharby, N.F.; Elewa, M.M. (2022) Review of New Approaches for Fouling Mitigation in Membrane Separation Processes in Water Treatment Applications. **Separations** 2022, 9, 1. doi: [10.3390/separations9010001](https://doi.org/10.3390/separations9010001)
- Ghazouani, N.; Bawadekji, A.; El-Bary, A.A.; Elewa, M.M.; Becheikh, N.; Alassaf, Y.; Hassan, G.E. (2022) Performance Evaluation of Temperature-Based Global Solar Radiation Models—Case Study: Arar City, KSA. *Sustainability* 2022, 14, 35. doi: [10.3390/su14010035](https://doi.org/10.3390/su14010035)
- El Batouti, M.; Al-Harby, N.F.; Elewa, M.M. (2021) A Review on Promising Membrane Technology Approaches for Heavy Metal Removal from Water and Wastewater to Solve Water Crisis. **Water** 2021, 13, 3241. doi: [10.3390/w13223241](https://doi.org/10.3390/w13223241)
- Elsheniti, M.B., Elbessomy, M.O., Wagdy, K., Elsamni, O.A., Elewa, M.M. (2021), "Augmenting the distillate water flux of sweeping gas membrane distillation using turbulators: A numerical investigation", **Case Studies in Thermal Engineering**, 26, 101180. <https://doi.org/10.1016/j.csite.2021.101180>
- Mahran, R.I.M., Naim, M.M., Yehia, M.E.O., El-Batouti, M., Elewa, M.M. (2020), "Bioconversion of potatoes to bioethanol", **Revista de Chimie**, 71(10), pp. 118–130. <https://doi.org/10.37358/RC.20.10.8356>
- Naim, M.M., Moneer, A.A., Elewa, M.M., El-Shafei, A.A. (2019), "Desalination using modified configuration of supported liquid membrane with enhancement of mass transfer of NaCl", **Water Science and Technology**, 79(1), pp. 175–187. <https://doi.org/10.2166/wst.2019.039>
- M.M. Naim, A.A. Moneer, A.A. El-Shafei, M.M. Elewa, "Role of non-Newtonian behaviour in effecting complete desalination of simulated seawater by the emulsion liquid membrane technique" Conference of Desalination for the Environment: Clean Water and Energy, 3–6 September 2018, Divani Caravel Hotel, Athens, Greece. 176.
- Mona M. Naim, Mahmoud M. Elewa, Ahmed A. El Shafei, "Application of nanomaterials in desalination, agriculture and wastewater remediation: A review", Conference of Desalination for the Environment: Clean Water and Energy, 3–6 September 2018, Divani Caravel Hotel, Athens, Greece 181.
- Ahmed A. El-Shafei, Mona M. Naim, Mahmoud M. Elewa, Rana S. Atito, "Desalination by sweeping-air pervaporation with modified cellulose-based membranes", Conference of Desalination for the Environment: Clean Water and Energy, 3–6 September 2018, Divani Caravel Hotel, Athens, Greece, 182.
- Mona M. Naim, Mahmoud M. Elewa, Ahmed A. El Shafei, "Desalination by humidification-dehumidification using a novel green packing material", Conference of Desalination for the Environment: Clean Water and Energy, 3–6 September 2018, Divani Caravel Hotel, Athens, Greece, 183.
- Mona M. Naim, Mahmoud M. Elewa, Shaaban A. Noseir, Ahmed A. El-Shafei, Mahmoud A. Mahmoud, Mohamed R. Lofty, Mostafa I. Mohamed, Ghada Z. Qutit, "A smart and innovated membrane distillation crystallization technique for zero liquid discharge", Conference of Desalination for the Environment: Clean Water and Energy, 3–6 September 2018, Divani Caravel Hotel, Athens, Greece, 185.
- Mona M. Naim, Mervette El Batouti, Mahmoud M. Elewa, Ahmed A. El-Shafei, Micheal E. Tawadrous, "Alternative energies in desalination – present status and future prospects", Conference of Desalination for the Environment: Clean Water and Energy, 3–6 September 2018, Divani Caravel Hotel, Athens, Greece, 201.
- M. M. Naim, A. A. Moneer, M. M. Elewa, A. A. El-Shafei (2017), "Desalination using Ion Exchange Multi-Stage Fluidization ", 3rd International Conference On Desalination Using Membrane Technology, 2-5 April 2017 Palacio De Congresos De Canarias, Las Palmas, Gran Canaria, Spain. Elsevier Publisher, Oc38.
- M. M. Naim, A. A. El-Shafei, M. M. Elewa, A. A. Moneer, (2017), "Application of Silver-, Iron-, and Chitosan-Nanoparticles in Wastewater Treatment", **Desalination and Water Treatment**, Vol. 73. Pages 268-280. Doi:[10.5004/Dwt.2017.20328](https://doi.org/10.5004/Dwt.2017.20328).
- Naim, M.M., El-Shafei, A.A., Elewa, M.M., Moneer, A.A. (2017), "Application of silver-, iron-, and chitosan- nanoparticles in wastewater treatment", **Desalination and Water Treatment**, Vol 73, pp. 268–280.
- M. M. Naim, A. A. Moneer, A. A. El-Shafei, M. M. Elewa, (2017), "Automated Prototype for Desalination by Emulsion Liquid Membrane Technique", **Desalination and Water Treatment**, Vol. 73, PP 164-174. Doi:[10.5004/Dwt.2017.20542](https://doi.org/10.5004/Dwt.2017.20542).
- M. M. Naim, M. M. Elewa, A. A. Moneer, A. A. El-Shafei (2017), "Desalination by Directional Freezing: An Experimental Investigation ", **Desalination and Water Treatment**, Vol. 73. PP185-197. Doi:[10.5004/Dwt.2017.20554](https://doi.org/10.5004/Dwt.2017.20554).
- M. M. Elewa, A. A. El-Shafei, A. A. Moneer, M. M. Naim (2016), "Effect Of Cell Hydrodynamic in Desalination of Saline Water by Sweeping Air Pervaporation Technique using Innovated Membrane", **Desalination And Water Treatment**, Vol. 57, Issue 48-49. Pages 23293-23307. Available Online 15 April 2016, Doi: [10.1080/19443994.2016.1173381](https://doi.org/10.1080/19443994.2016.1173381).
- A. A. El-Shafei, A. A. Moneer, M. M. Elewa, M. M. Naim (2016), "Kinetics of Transport of Sodium Chloride Using Supported Liquid Pertraction", **Desalination and Water Treatment**, Vol. 57, Issue 48-49. Pages 23280-23292. Available Online 5 January 2016, Doi: [10.1080/19443994.2015.1130918](https://doi.org/10.1080/19443994.2015.1130918).
- A. A. Moneer, A. A. El-Shafei, M. M. Elewa, M. M. Naim (2016), "Removal of Copper from Simulated Wastewater by Electrocoagulation/ Floatation Technique", **Desalination and Water Treatment**, Vol. 57, Issue 48-49. Pages 22824-22834. Available Online 31 December 2015, Doi: [10.1080/19443994.2015.1130917](https://doi.org/10.1080/19443994.2015.1130917).
- M. M. Naim, A. A. El-Shafei, A. A. Moneer, M. M. Elewa, W. G. Kandeel. (2016), "Bulk Liquid Pertraction of Nacl From Aqueous Solution Using Carrier-Mediated Transport", **Environmental Technology**, Vol. 37 No. 4. Pages 495-504. Available Online 6 October 2015, Doi: [10.1080/09593330.2015.1085825](https://doi.org/10.1080/09593330.2015.1085825).

- 2. Mona M. Naim, Mahmoud M. Elewa, Mervat A. Abdelkawi, Nouran A. Milad (2016) Biocompatible Scaffolds from Chitosan/Cellulose Acetate & Blends therefrom. **International Journal of Scientific & Engineering Research**, 7, 2, 1168-1176
- M. M. Naim, M. M. Elewa, A. A. El-Shafei, A. A. Moneer. (2015), "Desalination Of Simulated Seawater By Purge-Air Pervaporation Using An Innovated Fabricated Membrane", **Water Science & Technology**, Vol. 72 No. 5. Pages 785-793. Available Online 2 June 2015. Doi: [10.2166/Wst.2015.277](https://doi.org/10.2166/Wst.2015.277).
- M. M. Naim, A. A. El-Shafei, A. A. Moneer, M. M. Elewa, (2015), " Ultrafiltration By A Super-Hydrophilic Regenerated Cellulose Membrane", **Water Practice & Technology**, Vol. 10, No 2, Pages 337-346 Doi: [10.2166/Wpt.2015.040](https://doi.org/10.2166/Wpt.2015.040).
- M. M. Naim, A.A. Moneer, M.M. Elewa, M.E. Yehia, Ahmed El-Shafei (2012), "Recent Advances in Desalination Technologies: A Review", International Conference of Desalination for the Environment-Clean Water and Energy. April 23-26, 2012, Barcelona, Spain.
- Naim, M.M.; Elewa, M.M., "Separation of Organic Acids and Ethyl Alcohol from Water by Purge Air Pervaporation using Novel Cellulose Based Membranes", RETBE' 06, Role of Engineering towards a Better Environment, 6th International Conference, Faculty of Engineering, Alexandria University, Egypt, 16-18 Dec, 2006, Alexandria, Egypt.
- Elewa, M. M., "Desalination by sweeping gas pervaporation using cellular-based- and synthetic- polymer membranes", PhD thesis, Aug. 2005, Chem. Eng. Dept., Fac. of Eng., Alexandria University, Supervised by Prof. Dr. Mona M. Naim.
- Elewa, M. M., "Membranes in Biomedical Engineering", MSc. Thesis, Chem. Eng. Dept., Faculty of Engineering, Alexandria, university, 1997, supervised by Prof. Mona M. Naim.

#### Granted PATENTS

- M. M. Naim, M.M. Elewa, A.A. El-Shafei A.A. Moneer, (2020); An Innovated Prototype for Desalination in a Single Stage Using Pervaporation Technique; A.R.E. Application No. 344/2017. Filing Date. 3/2017.
- M. M. Naim, M.M. Elewa, A.A. Moneer, A.A. El-Shafei, M. Yehia et al., (Feb. 2017). Desalination Of Sea Water Using Pervaporation. Patent No.: Eg27868, Application No. 2012061089, Filing Date: 13/6/2012. International Patent Classification (IPC): INT.CL.8-B 01 D 61/36;C 02 F 103/08;B 01 D 71/16.
- M. M. Naim, A.A. Moneer, M.M. Elewa, A.A. El-Shafei, M. Yehia. (Apr. 2017). Desalination Of Simulated Seawater Using An Innovative Emulsion Liquid Membrane Technique. Patent No.: Eg 27920, Application No. 2013101534, Filing Date: 2/10/2013. International Patent Classification (IPC): INT.CL.8-B 01 D 61/40;C 02 F 1/58;C 02 F 1/26.

#### AWARDS

-  WORLD INTELLECTUAL PROPERTY ORGANIZATION (WIPO) DISTINCTION AWARD IN THE FOURTH CAIRO INTERNATIONAL EXHIBITION FOR INNOVATION 2017 (NOVEMBER 2017).