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GENERAL INFORMATION	
Name	Nationality
Alanood Abdelmajid Alsarayreh (Alanood A. Alsarayreh)	Jordanian
	

EDUCATION			
DEGREE	DISCIPLINE	INSTITUTION	YEAR
Ph.D.	Chemical and Thermodynamics Engineering	University of Bradford, UK, January of 2021.	(2021)
Masters	Chemical and petroleum Engineering	University of Bradford, UK	(2017-2018)
Bachelors	Chemical Engineering	Mutah University, Karak, Jordan	(2006-2011)

ACADEMIC EXPERIENCE			
INSTITUTION	RANK/TITLE	PERIOD	FT/PT
Chemical Engineering Department, College of Engineering, Mu'tah University, Jordan	Assistant Professor	Jan. 2021 - Present	FT
University of Bradford, UK	Teaching Assistant	2019-2020	PT
University of Bradford, UK	Research Assistant	2018-2021	PT
University of Bradford, UK	Research Student	2017-2018	PT

NON-ACADEMIC EXPERIENCE			
COMPANY/ENTITY	RANK/TITLE	PERIOD	FT/PT
The laboratories of Jordanian royal medical services	Chemical and Control Engineer	2013-2017	FT
Arab Potash Company	Chemical Engineer	2012	
Prince Faisal Center for Dead Sea, Environmental and Energy Research	Chemical Engineer	4 months	
The laboratories of Jordanian royal medical services	B.Sc. Training	4 months	
Experience in laboratories of public works	Chemical Engineer	one year	

CURRENT MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS	
ORGANIZATION	PERIOD
Jordan Engineering Association	2011-Present
Member of the Jordanian Engineers Association Council - Karak Council	2025-Present
Member of Karak Governorate Council	July,2025- Present

HONORS & AWARDS
Scholarship From Mutah University for MSc. and Phd. degrees (2018-2021)\ Bradford, UK
Scopus ID: 57202774545

SERVICE ACTIVITIES (Within and Outside the Institution)
Head of Chemical Engineering Department, Mutah University, Jordan (Feb. 2023 – Present)
Member of ABET Committee in the department of Chemical Engineering.
Supervisor for 4 undergraduate-graduation projects
Representative of the Chemical Engineering Department at the Engineering Council, Mutah University (2021- Feb. 2023).
Member of the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity (IEEE), (2022- Present)
Member of the first research team at Mu'tah university, (2022- Present)
Representative of engineering college in the Mu'tah University Council, university (2023-2024)
Member of Arab Research & Innovation Co- funded Alliances, titled (developing a novel anaerobic electrochemical membrane bioreactor system for sustainable water-energy nexus), (2023- Present)
Member of the 1st research team, Mu'tah University, Titled (Design, synthesis of metals, metal oxides, and polymers nanomaterials: applications in environmental and medical fields). (2022- Present)
Member of organizing committee for the 10th Jordan International Chemical Engineering Conference (JICHEC10), (2023)
Member of Academic programs committee, Mu'tah University, faculty of engineering (2023-Now)
Member of graduate studies committee in the engineering faculty (2023-Now)
Member of Industrial Systems Engineering Department Council, Mu'tah University, Jordan (2023- 2024)
Head of ABET Committee, Chemical Engineering Department, Mu'tah University (2023-Now)
Member of ABET Committee, Chemical Engineering Department, Mu'tah University (2021-2023)
Representative of chemical engineering department in the engineering faculty council, Mu'tah university (2021-2023)

IMPORTANT PUBLICATIONS (The Past Five Years)
1. Al-Obaidi, M.A., Alsarayreh, A.A., Al-Hroub, A.M., Alsadaie, S. and Mujtaba, I.M., 2018. Performance analysis of a medium-sized industrial reverse osmosis brackish water desalination plant. <i>Desalination</i> , 443, pp.272-284
2. Alsarayreh, A.A., Al-Obaidi, M.A., Al-Hroub, A.M., Patel, R. and Mujtaba, I.M., 2019. Performance Evaluation of Reverse Osmosis Brackish Water Desalination Plant with Different Recycled Ratios of Retentate. <i>Computer Aided Chemical Engineering</i> (Vol. 46, pp. 181-186). Elsevier.

3. Alsarayreh, A.A., Al-Obaidi, M.A., Al-Hroub, A.M., Patel, R. and Mujtaba, I.M., 2019. **Evaluation and minimisation of energy consumption in a medium-scale reverse osmosis brackish water desalination plant.** *Journal of Cleaner Production*, p.119220.

4. Alsarayreh, A.A., Al-Obaidi, M.A., Patel, R. and Mujtaba, I.M., 2020. **Scope and Limitations of Modelling, Simulation, and Optimisation of a Spiral Wound Reverse Osmosis Process-Based Water Desalination.** *Processes*, 8(5), p.573.

5. Alsarayreh, A.A., Al-Obaidi, M.A., Farag, S.K., Patel, R. and Mujtaba, I.M., 2021. **Performance evaluation of a medium-scale industrial reverse osmosis brackish water desalination plant with different brands of membranes. A simulation study.** *Desalination*, 503, p.114927.

6. Alsarayreh, A.A., Al-Obaidi, M.A., Ruiz-García, A., Patel, R. and Mujtaba, I.M., 2021. **Thermodynamic Limitations and Exergy Analysis of Brackish Water Reverse Osmosis Desalination Process.** *Membranes*, 12(1), p.11.

7. Altarawneh, O.R., Alsarayreh, A.A., Ala'a, M., Al-Kheetan, M.J. and Alrwashdeh, S.S., 2022. **Energy and exergy analyses for a combined cycle power plant in Jordan.** *Case Studies in Thermal Engineering*, 31, p.101852.

8. Alsarayreh, A.A., Abbas, T.K., Alaswad, S.O. and Bajoga, A.D., 2022. **Remove Liquid Radioactive Wastes Utilizing Nanofiltration, Ultrafiltration, and Microfiltration Membranes.** *Engineering and Technology Journal*, 40(9), pp.1231-1259.

9. Ibraheem, B.M., Aani, S.A., Alsarayreh, A.A., Alsalhy, Q.F. and Salih, I.K., 2023. **Forward Osmosis Membrane: Review of Fabrication, Modification, Challenges and Potential.** *Membranes*, 13(4), p.379.

10. Mahmood, R.S., Alsarayreh, A.A. and Abbas, A.S., 2023. **Measurement and Analysis of Bubble Size Distribution in the Electrochemical Stirred Tank Reactor.** *Iraqi Journal of Chemical and Petroleum Engineering*, 24(1), pp.27-31.

11. Al-Obaidi, M.A., Alsarayreh, A.A. and Mujtaba, I.M., 2023. **Reduction of Energy Consumption of Brackish Water Reverse Osmosis Desalination System Via Model Based Optimisation.** *Journal of Techniques*, 5(1), pp.1-7.

12. Rashid, F.L., Kaood, A., Al-Obaidi, M.A., Mohammed, H.I., Alsarayreh, A.A., Al-Muhsen, N.F., Abbas, A.S., Zubo, R.H., Mohammad, A.T., Alsadaie, S. and Sowgath, M.T., 2023. **A Review of the Configurations, Capabilities, and Cutting-Edge Options for Multistage Solar Stills in Water Desalination.** *Designs*, 7(3), p.67.

13. Abdulrahman, M.S., Alsarayreh, A.A., Barno, S.K., Abd Elkawi, M.A. and Abbas, A.S., 2023. **Activated carbon from sugarcane as an efficient adsorbent for phenol from petroleum refinery wastewater: Equilibrium, kinetic, and thermodynamic study.** *Open Engineering*, 13(1), p.20220442.

14. Al-Obaidi, M.A., Alsarayreh, A.A., Bdour, A., Jassam, S.H., Rashid, F.L. and Mujtaba, I.M., 2023. **Simulation and optimisation of a medium scale reverse osmosis brackish water desalination system under variable feed quality: Energy saving and maintenance opportunity.** *Desalination*, p.116831.

15. Ismael, B.H., Khaleel, F., Ibrahim, S.S., Khaleel, S.R., AlOmar, M.K., Masood, A., Aljumaily, M.M., Alsalhy, Q.F., Mohd Razali, S.F., Al-Juboobi, R.A. and Hameed, M.M., and Alanood A. Alsarayreh, 2023. **Permeation Flux Prediction of Vacuum Membrane Distillation Using Hybrid Machine Learning Techniques.** *Membranes*, 13(12), p.900.

16. Taisir K. Abbas, Khalid T. Rashid, Saad Al-Saadi, Alanood A. Alsarayreh, Alberto Figoli, Qusay F. Alsalhy, 2023. **Decontamination of Aqueous Nuclear Waste via Pressure-driven Membrane Application – A Short Review.** *Engineering and Technology Journal*, 41(09), pp.1152-1174.

17. Alsarayreh, A.A., 2024. **Performance analysis of a brackish water reverse osmosis desalination plant with seasonal temperature variations: A case study of Arab Potash Company in Jordan.** *Moroccan Journal of Chemistry*, 12(1), pp.12-1.

18. Al-Obaidi, M., Alsarayreh, A.A., Rashid, F.L., Sowgath, M.T., Alsadaie, S., Ruiz-García, A., Khayet, M., Ghaffour, N. and Mujtaba, I.M., 2024. **Hybrid membrane and thermal seawater desalination**

processes powered by fossil fuels: A comprehensive review, future challenges and prospects. *Desalination*, p.117694.

19. Al-Obaidi, M.A., Alsadaie, S., Alsarayreh, A., Sowgath, M.T. and Mujtaba, I.M., 2024. **Integration of Renewable Energy Systems in Desalination.** *Processes*, 12(4), p.770.

20. Abbas, S.K., Jaafar, M.T., Ali, H.R. and Alsarayreh, A.A., 2024. **Synthesis, Antibacterial Evaluation and molecular docking of 2, 4, 5-Tri-imidazole Derivatives.** *Moroccan Journal of Chemistry*, 12(3), pp.1222-1239.

21. Alsarayreh, A.A., Ibrahim, S.A., Alhamd, S.J., Ibrahim, T.A. and Abbas, M.N., 2024. **Removal of selenium ions from contaminated aqueous solutions by adsorption using lemon peels as a non-conventional medium.** *Karbala International Journal of Modern Science*, 10(4), p.4.

22. Khudair, S.Y., Alsarayreh, A.A. and Abbas, M.N., 2024. **Adsorption of vanadium from Iraqi crude oil on nano zeolite and alum sludge.** *Journal of Engineering and Sustainable Development*, 28(6), pp.762-769.

23. Hammed, A.S., Alsarayreh, A.A. and Abbas, M.N., 2025. **Applying of zero residue level concept in integrated management of toxic and solid wastes as a sustainable approach.** *Ecological Engineering & Environmental Technology*, 26(1), pp.353-378.

24. Alsarayreh, A. A., Nsaif, R. Z., Nsaif, M. M., Nsaif, Z. M., & Abbas, M. N. (2025). **Nickel Remediation by Adsorption Technique Achieving the Concept of Zero Residue Level.** *Jordan Journal of Civil Engineering*, 19(1).

25. Jadooa, Z. A., Alsarayreh, A. A., & Abbas, M. N. (2025). **Adsorption of thallium using tangerine peels and exploitation from the waste in an eco-friendly manner.** *Ecological Engineering & Environmental Technology (EEET)*, 26(2).

26. Suha Anwer Ibrahim, Salem J. K. Alhamd, Shahad M. Ali , Mohammed N. Abbas , Thekra Atta Ibrahim and Alanood A. Alsarayreh, 2025. **Remediation of aqueous solutions contaminated by benzidine toxic dye using non-conventional adsorbent: morphological and modelling studies.** *Accepted for publishing in. Al-Qadisiyah Journal for Engineering Sciences*.

27. Alsarayreh, A. A., Al-zoubi, H. Q., & Abbas, M. N. (2025). **Sustainable nickel removal from water by using waste tea leaves for eco-friendly water treatment.** *Indian Chemical Engineer*, 1-22.

28. Alanood A. Alsarayreh, (2025). **Production and Application of High-Performance Activated Carbon from Plastic Waste for Eosin Removal and Rodent Control.** *Accepted for publishing in Maan University Journal*

29. Alanood A. Alsarayreh. **Utilising Eggshells as Sustainable and Low-Cost Adsorbents for Iron (III) Contaminated Wastewater Treatment.** *Accepted for publishing in Maan University Journal*

30. Alsarayreh, A.A., 2025. **Effective Cyanide Adsorption in Wastewater Using Buckthorn Leaves: A study on Removal Efficiency and Kinetic Analysis.** *Jordanian Journal of Engineering & Chemical Industries (JJECI)*, 8(1).

31. Alanood A. Alsarayreh. **Modelling, simulation and optimisation of a large-scale reverse osmosis based on a high-salinity brackish water desalination process. Quantifying different grades of water.** *Accepted for publication in Jordanian Journal of Engineering & Chemical Industries (JJECI)*.

32. Alanood A. Alsarayreh,(2025). **Utalization of Artificial Neural Networks (ANNs) for Prediction the Reverse Osmosis Desalination Plant Performance of Arab Potash Company.** *Accepted for publication in Water Conservation & Management (WCM)*

33. Alanood A. Alsarayreh,(2025). **Dynamic operation and energy consumption of a medium –scale reverse osmosis brackish water desalination plant with membrane fouling.** *Water Conservation & Management (WCM) 9(2) 339-345*

34. Khaleel, S. R., Ibrahim, S. S., Alsarayreh, A. A., Alanezi, A. A., Jawad, Z. A., & Alsalhy, Q. F. (2025). **Influence of prolonged operation of CNM/PAC modified PVDF nanocomposite membranes in Desalination via vacuum membrane distillation.** *Desalination and Water Treatment*, 101242.

35. Alsarayreh, A. A., Al-Obaidi, M. A., Almasarwah, N., Li, J. P., & Mujtaba, I. M. (2025). **Optimisation based on species conservation genetic algorithm for operational improvement of high**

salinity brackish water reverse osmosis desalination process. *Computers & Industrial Engineering*, 111221.

36. Ghafil, N. A., Abdul-Majeed, B. A., & Al-Sarayreh, A. A. (2024). **Preparation and characterization of smart hydrogels (magnetic field responsive).** *Iraqi Journal of Chemical and Petroleum Engineering*, 25(3), 69-75.

37. Rasha Salim Mahmood, Mohammed Nsaif Abbas, Zaidun Naji Abudi, Al-Sarayreh, A. A. (2025). **Harnessing the green method to synthesize cobalt oxide nanoparticles and testing its performance in treating the hidden pollution of fluoride from aqueous solutions.** *Accepted for publication in Water Conservation & Management (WCM)*

38. Soliman, H., Zhang, R., Cai, X., Feng, W., Al-Sarayreh, A. A., Hussain, A. A., & Alsadaie, S. (2025). **Multifunctional Superhydrophobic Coatings for Aluminum and Magnesium Alloys: Applications and Performance-Review.** *Journal of Techniques*, 7(2), 83-100.

39. Qadourah, J.A., Almasarwah, N.E., Al-Sarayreh, A. and Al-Falahat, A.A.M., 2025. **Architectural integration of photovoltaic shading systems for resilient and sustainable cities: a multi-criteria decision-making approach.** *Energy and Buildings*, p.116731.

40. Ibrahim, S.A., Al-Sarayreh, A.A., Khaled, T.T. and Abbas, M.N., 2025. **Buckthorn Leaves as an Efficient Material for Simultaneously Multi Eco-Friendly Purposes.** *Journal of Engineering and Sustainable Development*, 29(4), pp.539-549.

Conferences (The Past Five Years)

1- Al-Sarayreh, A.A., Al-Obaidi, M.A., Al-Hroub, A.M., Patel, R. and Mujtaba, I.M., 2019. **Performance Evaluation of Reverse Osmosis Brackish Water Desalination Plant with Different Recycled Ratios of Retentate.** In *Computer Aided Chemical Engineering*. Accepted and Published in **ESCAPE 29. In Computer Aided Chemical Engineering (Vol. 46, pp. 181-186). Elsevier**

2- Al-Sarayreh, A.A., Al-Obaidi, M.A., Al-Hroub, A.M., Patel, R. and Mujtaba, I.M., 2019. **Optimisation of energy consumption in a medium-scale reverse osmosis brackish water desalination plant.** Accepted and Published in **ESCAPE 30. In Computer Aided Chemical Engineering (Vol. 48, pp. 373-378). Elsevier**.

3- Al-Sarayreh, A.A., Al-Obaidi, M.A., A.M., Patel, R. and Mujtaba, I.M., 2022. **Enhancement of energy saving of reverse osmosis system of Arab Potash Company via a wind energy system.** Accepted and Published in **ESCAPE 31. In Computer Aided Chemical Engineering (Vol. 50, pp. 95-100). Elsevier**.

4- Al-Sarayreh, A.A., Al-Obaidi, M.A., Alrasheddeh, S.S., A.M., Patel, R. and Mujtaba, I.M., 2021. **Enhancement of energy saving of reverse osmosis system via incorporating a photovoltaic system.** Accepted and Published in **ESCAPE 32. In Computer Aided Chemical Engineering (Vol. 51, pp. 697-702). Elsevier**.

5- Al-Anazi, A.A. and Al-Sarayreh, A.A., 2022. **Effect of Inclination Angle on Productivity of a Direct Contact Membrane Distillation (Dcmd) Process.** *open science index* 16 2022, 23, p.63

6- Al-Obaidi, M.A., Al-Sarayreh, A.A. and Mujtaba, I.M., 2023. **Simulation and optimisation of a medium scale industrial reverse osmosis desalination system.** Accepted and Published in **ESCAPE 33. In Computer Aided Chemical Engineering (Vol. 52, pp. 45-50). Elsevier**.

7- Al-Sarayreh, A.A., Al-Obaidi, M.A., Al-Hroub, A.M., Patel, R. and Mujtaba, I.M., 2023. **Evaluation and minimisation of energy consumption in a medium-scale reverse osmosis brackish water desalination plant.** *Journal of Cleaner Production*, p.119220. **AQABA INTERNATIONAL ENGINEERING CONFERENCE (AIEC) 22-23/2/2023**

8- Alanoud A. Al-Sarayreh, Mudhar A. Al-Obaidi, Najat Almasarwah, Li Jian P and Iqbal M. Mujtaba, 2023. **Optimisation based on adaptive species conservation genetic algorithm for operational enhancement of brackish water reverse osmosis desalination plant.** *Accepted and published in, The 50th International Conference on Computers and Industrial Engineering, American University of Sharjah, UAE*

9- Najat Almasarwah, Esraa Abdelall, Alanood A. Alsarayreh, 2023. **Job shop batch-cyclic scheduling method in the manufacturing area.** *Accepted in, The 50th International Conference on Computers and Industrial Engineering, American University of Sharjah, UAE*

10- Mudhar A. Al-Obaidi, Varshil Kachchhi, Alanood A. Alsarayreh and I. M. Mujtaba. **Performance evaluation of several reverse osmosis process configurations for the removal of N-nitrosodimethylamine (NDMA) from wastewater.** *Accepted and published in ESCAPE 34.*

11. Jaafar, M.T., Salih, N.S., Ahmed, L.M., Alsarayreh, A.A. and Bded, A.S., 2025, May. **A study of the effect of aromatic hydrocarbons on the physical and dynamic properties of diesel fuels.** *Accepted and published in AIP Conference Proceedings (Vol. 3292, No. 1, p. 040004). AIP Publishing LLC.*

12. Jawad, S.A., Redha, Z.A.A., Rashid, F.L. and Alsarayreh, A.A., 2025, May. **Thermal-hydraulic analysis of closed and opened solar water collectors using an air bubble technique.** *Accepted and published in AIP Conference Proceedings (Vol. 3292, No. 1, p. 040001). AIP Publishing LLC.*

13. Alanood A. Alsarayreh, Mudhar A. Al-Obaidi and I. M. Mujtaba. **Enhancing Energy Efficiency of Industrial Brackish Water Reverse Osmosis Desalination Process using Waste Heat.** *published ESCAPE 35.*

14. Almasarwah, N., Qadourah, J.A., Alsarayreh, A.A. and Alrawashdeh, R., 2025. **Modeling Multi-Model Multi-Robotic Disassembly Line Balancing Problem.** *IFAC-PapersOnLine, 59(10), pp.1390-1395.*

MOST RECENT PROFESSIONAL DEVELOPMENT ACTIVITIES

Certificate of participation in the "Power of Thought... Power of Leadership" project: For leadership in supporting women to reach senior leadership positions in higher education and beyond, from the British Council

Certificate of reviewing in Jordan Journal of Civil Engineering, Jordan University of Science and Technology (2025)

Certificate of reviewing in South African Journal of Chemical Engineering, ELSEVIER (2020, 2021, 2022)

Certificate of UK Teaching Fellowship from the learning, teaching, and quality enhancement of University of Bradford.

Certificate of training course in "Implementation of ISO/IE 17025:2005 and Laboratory Documentation System" from USAID.

Training Course in the laboratories of Hospital Prince Ali Bin Al Hussein.

Training in an instrumental analysis from "Prince Faisal Center for Dead Sea, Environmental and Energy Research".

Training in Public Works for one year.

Training in Arab Potash Company for one year.

Training course in the design of drinking water plants.

Certificate of training in instrumental analysis.

Certificate of communication skills.

Grant of excellence and success of human development from California college (Diploma in NLP (neural linguistic programming), Diploma in memory and remembering, self-confidence, communication skills course, the secrets of success cycle, cycle time management, self-motivation, mental maps, positive thinking, goal-setting cycle and how to achieve them).

Supervised Master's Theses

- ***Preparation and Characterization of Forward Osmosis Membrane for Saline Water Desalination. (2025)***

MOST recent professional Participation in seminars and activities

• The Artificial Intelligence Conference: The Linkage in the Water, Energy, Food, and Environment System, organized by the Higher Council for Science and Technology — WEFE Nexus Conference

• Scope of Electrical Engineers (SOFEE): Young Electrical Engineers Forum

• The 2nd Jordanian International Chemical Process Safety Conference

• Entrepreneurship and Innovation Training Program including: Change Management

• Entrepreneurship and Innovation Training Program including: Fundamentals of Entrepreneurship

• Entrepreneurship and Innovation Training Program including: Advanced Entrepreneurship

• Entrepreneurship and Innovation Training Program including: Innovation

• Entrepreneurship and Innovation Training Program including: Creative Thinking and Design Thinking

• Workshop titled: The Impact of Climate Change on Water Reality in Jordan

• A Consultation Session on the Comprehensive Environmental Impact Assessment Study for the Limestone Mining Project (Calcium Carbonate) for Panorama Mining Company located in Damaqi Area / Ma'an Governorate

• A Consultation Session on the Comprehensive Environmental Impact Assessment Study for the Oil Shale Mining Project for the Manaseer Industrial Complex Company on Daba Land / Ma'an Governorate

• The Fourth Youth Chemical Engineering Forum

• The 10th Jordanian International Chemical Engineering Conference (JICGHEC 10)

• Scientific Seminar titled: Exploitation of National Resources and Dead Sea Metals under the patronage of His Royal Highness Prince Hassan bin Talal, Chairman of the Higher Council for Science and Technology

• The Scientific Day titled: The Future of Green Hydrogen in Jordan

• Workshop in collaboration between the Deanship of Scientific Research at Mutah University and the Water Sector Governance Project funded by the US Agency

• The Annual Meeting of the IEEE Global Chapter in Jordan

- Judging the projects participating in the Graduation Projects Competition for Engineering Colleges in Jordanian Universities for 2024, organized by the Jordanian Engineers Association
- Evaluation of projects at the 11th National Technology Festival

Teaching Activities (Taught Courses)

- Water and Wastewater Treatment Technology
- Renewable Energy Engineering
- Chemical Engineering Thermodynamics I and II
- Data Analysis in Chemical Engineering
- Communication Skills
- Principles of Chemical Engineering 1
- Thermodynamics Laboratory for Chemical Engineering
- Reaction Engineering Laboratory
- Solid Materials Processes Laboratory
- Fundamentals of Fluid Flow and Heat Transfer
- Unit Operations (2) / Separation Processes
- Advanced Thermodynamics
- Engineering Reaction Engineering Practical
- Research Methodology
- Seminar / Master's Program
- Master's Supervision
- Field Training / Supervision
- Graduation Project (1 and 2)