Dr. Khawla Alshayji

1. Name & Contact Information

Name: Khawla Alshayji
Rank: Associate Professor
Address: Adaileya Block 1 Street 10 House 28
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2. Education

Degree	Discipline	Institution	Year
B.Sc	ChE	KU	1987
M.Sc.	ME	Glasgow University	1993
PhD	CHe	Virginia Tech	1998

3. Academic Experience

Institution	Designation	Year/Period
Kuwait University	Assistant Prof.	1998 - 2022
Kuwait University	Associate Prof.	2020 - 2022
Kuwait University	Associate Prof.	2024 - Now

4. Non-Academic Experience

Organization	Designation	Year/Period
Kuwait Foundation for Advancement of Science - KFAS	Deputy Director General for Strategic Thrust Program	2022-2024
MEW Minister	Consultant	2019 - 2020

5. Membership in Professional Organization:

- Committee member - Higher Energy Committee 2022
- Committee member - Ministry of Electricity and Water, Investigating the deterioration in Doha West Distillers Performance,2018
- Committee member - Ministry of Electricity and Water, re-evaluation of the anti-scalent used in Desalination Plants, 2016
- Committee member - Ministry of Electricity and Water, Doha West RO plant tenders review, 2014
- Committee member - Engineering Education at the Academic Council at Kuwait
- Board member – Sobah Al-Ahmad Center for Giftedness and Creativity (SACGC) – KFAS - 2022 -
- Board member – Dasman Diabetes Institute (DDI) – KFAS - 2022
- Board member – The Scientific Center (SC) – KFAS - 2023

- Board of Trustees – Abdulaziz Alsagar Development Center – Kuwait Chamber of Commerce & Industry - 2022

6. Publications and Presentations (2013 to present)

Publications

1. Asmaa Alrashidi a, Esra Aleisa b, Khawla Alshayji "**Life cycle assessment of hybrid electrodialysis and reverse osmosis seawater desalination systems".** Desalination, Volume 578, 14 June 2024, 117448: Scopus - Document details - Life cycle assessment of hybrid electrodialysis and reverse osmosis seawater desalination systems | Signed in

2. Aldei, S., Alshayji, K., Aleisa, E 2023. **"Techno-environmental Simulations for Solar Energy-Powered Seawater Reverse Osmosis Desalination for a Hyper Arid Coastal Region**" Journal of Engineering Research (Kuwait), 11(2), pp. 276–291. Scopus - Document details - Techno-environmental Simulations for Solar Energy-Powered Seawater Reverse Osmosis Desalination for a Hyper Arid Coastal Region | Signed in

3. Aljuwaisseri, A., Aleisa, E., Alshayji, K. 2023. **"Environmental and economic analysis for desalinating seawater of high salinity using reverse osmosis: a life cycle assessment approach"** Environment, Development and Sustainability, 25(5), pp. 4539–4574. Scopus - Document details - Environmental and economic analysis for desalinating seawater of high salinity using reverse osmosis: a life cycle assessment approach | Signed in

4. Al-Shayji, K., & Aleisa, E. 2018. "**Characterizing the fossil fuel impacts in water desalination plants in Kuwait: A Life Cycle Assessment approach"**. *Energy*, *158*, 681-692, doi: https://doi.org/10.1016/j.energy.2018.06.077. Scopus - Document details - Characterizing the fossil fuel impacts in water desalination plants in Kuwait: A Life Cycle Assessment approach | Signed in

5. Aleisa, E., and Al-Shayji, K. 2018. "**Ecological–economic modeling to optimize a desalination policy: Case study of an arid rentier state"**. Desalination, 430, 64-73. DOI: 10.1016/j.desal.2017.12.049. Scopus - Document details - Ecological–economic modeling to optimize a desalination policy: Case study of an arid rentier state | Signed in

6. Aleisa, E. and K. Al-Shayji, 2017. "**Analysis on Reclamation and Reuse of Wastewater in Kuwait"**, Journal of Engineering Research, 7, Issue 1, March 2019. Scopus - Document details - Analysis on reclamation and reuse of wastewater in Kuwait | Signed in

Presentations:

1. Aljuwaisseri, A., Aleisa, E., Alshayji, K. 2022. "**Assessing Seawater Desalination using Reverse Osmosis and Multi-effect Distillation for Kuwait using Life Cycle Assessment: Fossil fuels versus solar power**". IOP Conference Series: Earth and Environmental Science, 2022, 1026(1), 012025.

2. Aleisa, E., Aljuwaisseri, A., Alshayji, K., Al-Mutiri, A. 2022. "**Environmental**

Impacts O Reverse Osmosis in Wastewater Treatment Versus Desalination To Mend The Water Cycle: A Life Cycle Assessment". WIT Transactions on Ecology and the Environment, 2022, 257(2022), pp. 27–37.

7. Supervised Thesis

Main Supervisor

- Effectiveness of COVID-19 Pandemic Crisis Management Process on Power Generation and Water Production in Kuwait ,2022
- Occupational Health, Risk Management, and Hazard Risk Assessment in Kuwait Thermal Desalination Plants. 2021.
- Investigating the Effect of Different Solar System Parameters on Seawater Reverse Osmosis Desalination Plant in Kuwait, 2020
- The Reuse of Seawater Reverse Osmosis Pretreatment Sludge for the Removal of Organic Wastewater Impurities, 2020
- Fouling of Seawater Heat Exchangers Located at Kuwait Petroleum Company Refineries, 2018

Co-Supervisor

- Artificial Neural Network (ANN) Model for Predicting Water Permeability Coefficient in SWRO Desalination Plant Under Fouling, 2024
- An Environmental and Economic Assessment of Seawater Reverse Osmosis Desalination in the State of Kuwait, 2021.
- Tecno-Economic Evaluation of Thermal Fluids as Alternative to Steam in Claus Process, 2021
- Multi Stage Flashing Desalination Process Intrusion Detection System, 2017
- Multi Stage Flashing Desalination Process Intrusion Detection System, 2018
- Fouling of Hydrocarbons in Heat Exchanger, 2018
- Fuzzy Environmental Performance Index, 2006
- Prediction of Chlorine Dosing Rate at the Seawater Intake of Power Generation Water Production Plants Using Artificial Neural Network, 2003
- Kinematic Model for Step Polymerization, 2002
- Expert Systems for the Alarm Processing and Fault Detection of Multistage Flash Desalination Plant, 2002
- Corrosion Monitoring in Desalination Plants, 2000