

# Saja Albdairat, Ph.D.

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Mutah, Alkarak, Jordan | [Saja.Taleb@mutah.edu.jo](mailto:Saja.Taleb@mutah.edu.jo)

## EDUCATION

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- **University of Sheffield** February 2023  
*Ph.D. in Chemical Engineering* United Kingdom
  - Research area: Dynamic modelling of CO capture process integrated with NGCC power plant using Aspen Plus and Matlab
- **The University of Manchester** September 2017 - September 2018  
*Master of Science in Chemical Engineering - Corrosion Control Engineering* United Kingdom
  - Courses: Corrosion Control, Process and Power Industry, Material Design
  - Master Thesis: Effect of chemical inhibitors in preventing corrosion in carbon steel pipeline
- **Mutah University** September 2008 - June 2013  
*Bachelor of Engineering in Chemical Engineering* Karak, Jordan
  - Courses: Process Control, Heat and Mass Transfer, Separation Units, Thermodynamics, Chemical Reactions Engineering, Organic Chemical and Analytical Chemical
  - Graduation Project: Waste water treatment by supercritical water

## EXPERIENCE

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- **Mutah University** September 2023 - Present  
*Student Affairs Assistant* Jordan
  - Managing student affairs and administrative responsibilities
  - Supporting academic and administrative processes
- **University of Sheffield** February 2020 - December 2022  
*Teaching Assistant - Chemical and Biological Engineering Department* United Kingdom
  - Aspen Plus Teaching Assistant (Spring 2020, Fall 2020)
  - Process simulation and modelling instruction (Spring 2020, Fall 2020)
  - Environmental engineering teaching support (Fall 2020)
  - Process design course assistance (Fall 2021)
- **Arab Potash Company** January 2014 - July 2014  
*Chemical Engineer (Trainee)* Jordan
  - Reverse Osmosis water purification and brine processing for dry salt production
  - Water quality testing: pH, Chlorine, Total Suspended solids, Dissolved Oxygen, Calcium Carbonate, Silica, Total Hardness
  - Salt testing: Moisture, Purity analysis
  - Operation and Control of Salt Production Process
- **Jordanian National Poultry Company** October 2013 - January 2014  
*Chemical Engineer (Trainee)* Jordan
  - Practical training program focused on water testing procedures
  - Quality control and analysis of water systems

## PUBLICATIONS

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- [1] Saja Albdairat, et al. (2024). **Technical Analysis of Post-Combustion CO Capture Through Process Modifications (Split Flow with Inter-Heating Stripper for Large Scale of Combined Cycle Gas Turbine)**. SSRN Electronic Journal.
- [2] Saja Albdairat, et al. (2023). **Technical Assessment of Post-Combustion Carbon Capture using MEA through Process Modifications (Multi Absorber Feed and Inter-heating Stripper) for Large Scale Combined Cycle Gas Turbine Power Plant**. SSRN Electronic Journal.

## CONFERENCE PRESENTATIONS

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- **GHGT-17: Techno-analysis of solvent-based post-combustion CO capture** 2024  
Calgary, Canada Oral Presentation
  - Process modification through split flow with Inter-heating stripper for commercial scale CCGT power plants
- **GHGT-16: Techno-economical assessment of solvent-based post-combustion CO capture** 2023  
Lyon, France Oral Presentation
  - Multi absorber feed with Inter-heating stripper for commercial scale CCGT power plants
- **4th Chemical Engineering Forum** March 2024  
Amman, Jordan Participant
- **Summer School** July 13-19, 2025  
Regina, Canada Participant

## SKILLS

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- **Process Simulation Software:** Aspen Plus/ Aspen Dynamics, ProTreat, ChemCad, DWSIM
- **Programming Languages:** Matlab/Octave, Python
- **Office Applications:** Microsoft Office Suite
- **Operating Systems:** Various operating systems
- **Analytical Techniques:** GC-ECD, GC-MC, HPLC, IC, UV-VIS, Spectrophotometry, AAS
- **Research Skills:** CO capture modeling, Process optimization, Corrosion control, Water treatment
- **Professional Skills:** Project Assessment, Team Building Leadership, Aspen Plus Problem Solving

## TRAINING AND WORKSHOPS

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- **E-Learning Problems Workshop** March 26, 2024  
Mutah University
- **New Engineers Course** September 29, 2024  
Mutah University
- **Learning and Electronic Content Course** October 30, 2023  
Mutah University
- **Cybersecurity Workshop** October 18, 2023  
Mutah University
- **Research and Teaching Skills Training** 2019  
University of Sheffield
  - How to get Published paper with IEEE
  - Introduction to teaching as a GTA
  - Assessment and Feedback
  - Lab Demonstration
  - Research Supervision
  - Matlab Tutorial
  - Ethics and Research Integrity in Engineering
  - Guide to attending Conferences and making conference posters
  - Teaching Design and delivery
  - Postgraduate Research Conference
- **Instrumental Chemical Analysis** September - October 2014  
Mutah University
  - Theory and practice on GC-ECD, GC-MC, HPLC, IC, UV-VIS, Spectrophotometer, AAS
- **ISO Standards Training** January - February 2015  
Jordanian Engineers Association
  - ISO14001, ISO18001 certification training

## HONORS AND AWARDS

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- **Mutah University Scholarship** Master's and Ph.D. Studies  
Mutah University
  - Full scholarship to pursue Master's and Ph.D. in Chemical Engineering
  - Covered tuition, living expenses, and research costs

**PROFESSIONAL MEMBERSHIPS**

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◦ **Jordanian Engineers Association**, Active Member *Current*

**ADDITIONAL INFORMATION**

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**Research Interests:** CO capture processes, Process simulation and optimization, Corrosion control engineering, Environmental engineering, Water treatment technologies  
**Technical Expertise:** Dynamic modeling, Process integration, Post-combustion carbon capture, Combined cycle gas turbine systems

**REFERENCES**

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Available upon request