

Saja Albdairat, Ph.D.

+962788009907 | sajabderat@gmail.com

Mutah, Alkarak, Jordan | Saja.Taleb@mutah.edu.jo

EDUCATION

• University of Sheffield

Ph.D. in Chemical Engineering

February 2023

United Kingdom

- Research area: Dynamic modelling of CO capture process integrated with NGCC power plant using Aspen Plus and Matlab

• The University of Manchester

Master of Science in Chemical Engineering - Corrosion Control Engineering

September 2017 - September 2018

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

Bachelor of Engineering in Chemical Engineering

September 2008 - June 2013

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

• Mutah University

Student Affairs Assistant

September 2023 - Present

Jordan

- Managing student affairs and administrative responsibilities
- Supporting academic and administrative processes

• University of Sheffield

Teaching Assistant - Chemical and Biological Engineering Department

February 2020 - December 2022

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

Chemical Engineer (Trainee)

January 2014 - July 2014

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

Chemical Engineer (Trainee)

October 2013 - January 2014

Jordan

- Practical training program focused on water testing procedures
- Quality control and analysis of water systems

PUBLICATIONS

- [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

- **GHGT-17: Techno-analysis of solvent-based post-combustion CO capture** 2024
Calgary, Canada
 - 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
 - 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

- **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

- **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

- **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

- **Jordanian Engineers Association**, Active Member

Current

ADDITIONAL INFORMATION

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

Available upon request