

Aiman Alshare

School of Applied Technical Sciences

German Jordanian University (GJU)
Amman–Madaba Road, Jordan
☎ +962 797 901 921
✉ aiman.share@gju.edu.jo

Professional Summary

Professor of Mechanical Engineering with over 14 years of experience in **computational fluid dynamics (CFD)**, **renewable energy**, and **biomedical engineering**. Combines academic leadership with industrial expertise in process development and quality engineering. Currently serving as **Dean of SATS and SSSE at GJU**, fostering interdisciplinary collaboration in sustainability, energy systems, and AI-based design optimization.

Academic Positions

- 2025–Present **Dean, School of Sustainable Systems Engineering**, German Jordanian University, Jordan
- 2025–Present **Dean, School of Applied Technical Sciences**, German Jordanian University, Jordan
- 2022–2025 **Vice Dean, School of Applied Technical Sciences**, German Jordanian University, Jordan
- 2021–2022 **Department Head, Mechanical and Maintenance Engineering**, German Jordanian University, Jordan
- 2018–2021 **Visiting Associate Professor of Mechanical Engineering**, Dortmund University of Applied Sciences and Arts, Germany
- 2017–2018 **Visiting Professor of Mechanical Engineering**, Bochum Applied University, Germany
- 2010–2022 **Assistant & Associate Professor of Mechanical Engineering**, German Jordanian University, Jordan
- 2007–2008 **Postdoctoral Research Associate, Solar Energy Laboratory**, University of Minnesota – Twin Cities, USA

Education

- Ph.D. **University of Minnesota – Twin Cities, USA**
Mechanical Engineering
- B.Sc. & M.Sc. **South Dakota State University, USA**
Mechanical Engineering

Research Interests

Computational Fluid Dynamics (CFD); Renewable Energy and Sustainability; Biomedical Heat Transfer; Additive Manufacturing; Battery Modeling and Health Forecasting; Physics-Informed and AI Simulation Models.

Selected Publications (2020–2025)

- 2025 **S. Qaadani, A. Alshare et al.** "Weibull Distribution-Informed Neural Networks (WDINNs): A Probabilistic Framework for Enhanced Degradation Prediction in LiBs." *Ionnics*, 2025.
- 2025 **S. Qaadani, A. Alshare et al.** "Causal Physics-Infused Hybrid Learning Framework for Next-Gen Battery Health Forecasting." *IEEE Access*, 2025.
- 2025 **S. Qaadani, A. Alshare et al.** "Stacked Ensembles Powering Smart Farming for Imbalanced Sugarcane Disease Detection." *Applied Sciences* 15(5), 2788.
- 2022 **A. Alshare et al.** "Hydrothermal and Entropy Investigation of Nanofluid Natural Convection in a Lid-Driven Cavity." *Nanomaterials*.

- 2020 **A. Alshare, B. Tashtoush, H. El-Khalil.** "Energy and Economic Analysis of a 5 MW Photovoltaic System in Northern Jordan." *Case Studies in Thermal Engineering* 21, 100722.

Selected Conference Papers

- 2025 **IEEE GPECOM 2025:** "Destruction-Aware Reliability Modeling of Li-Ion Batteries with RelAI-Net."
2024 **IEEE ICMLA 2024, Miami (USA):** "Smart Prediction with GRU-BPP and PCA for Causal Insights and Battery Health."
2022 **IEEE ICCMA 2022, Luxembourg:** "Forecasting Solar Photovoltaic Power Output Using AI and ML Algorithms."

Teaching Portfolio

Internal Combustion Engines; 3D Printing & Additive Manufacturing; Renewable Energy Resources; CFD; Thermodynamics; Fluid Mechanics; Heat Transfer; Robotics; Automatic Control; Machine Design; Numerical Analysis; Probability & Statistics for Engineers.

Grants and Funded Projects

- 2023 **DAAD Research Fellowship**, Dortmund University of Applied Sciences — CAD & 3D Printing Technical Solutions (€110 k).
2014–2017 **Co-PI, Jordan University of Science and Technology** — Passive Solar Ejector Cooling System (\$140 k).
2013–2014 **Co-PI, JUST** — Modeling of Blood Flow Under Magnetic Fields (\$15 k).

Technical Skills

ANSYS Workbench, FLUENT, COMSOL Multiphysics, SolidWorks, TRNSYS, EES, MATLAB, C++, FORTRAN, LaTeX, Minitab, Taguchi DOE, Regression Analysis, SPC, Windows, macOS, Linux.

Industry Experience

- 2001–2004 **Process Development & Systems Engineer**, *Hutchinson Technology Inc.*, Plymouth, MN, USA
2001–2002 **Quality Engineer**, *Twin City Die Casting Company*, Minneapolis, MN, USA

Professional Leadership & Committees

Dean of SATS & SSSE (2025–Present); Vice Dean (2022–2025); Chair of Mechanical & Mechatronics Departments; Member of Deanship of Scientific Research Committee; Laboratories Tender Committee; School Council Representative (2008–Present); German Exchange Coordinator for Mechanical and Mechatronics Engineering.

Languages

- Arabic Native
English Fluent
German Working Knowledge