Abdulwahab Elfajri Rawesat, PhD

Electrical Engineering Specialist | Academic Leadership | Renewable Energy Researcher

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Executive Profile

An Assistant Professor and Electrical Engineer, I hold a PhD from Cranfield University (2025). My expertise lies in Power Systems, Decarbonization strategies, and Renewable Energy integration. I am proficient in advanced simulation tools such as MATLAB and Turbomatch for gas turbine performance analysis. Currently, I serve as the Director of Scientific Affairs (2026–Present), bringing together academic research, institutional leadership, and over 25 years of technical field experience.

Education

- **PhD in Electrical Engineering** | 2025
  - *Cranfield University, United Kingdom*
- **MSc in Advanced Engineering** | 2016
  - *Sheffield Hallam University, United Kingdom*
- **Certificate in Administrative Leadership Development** | 2010

Academic Leadership & Teaching

Director of Scientific Affairs | 2026 – Present *Higher Institute of Engineering Technologies, Tripoli*

- Led institutional research strategies and academic curriculum development.

- Managed institutional academic development and faculty performance.

Assistant Professor | 2025 – Present

- Delivered advanced lectures in Electrical Engineering and supervised postgraduate research.

Head of Electrical and Electronic Engineering Department | 2016 – 2021 *Communications and Power Systems Division*

- Managed departmental operations and chaired the Examination Committee for several cycles.

Head of Electrical Engineering Department | 2007 – 2012 *Power Systems Division*

Research & Publications

- **Rawesat, A.**, & Pilidis, P. (2024). "Greening an Oil Exporting Country: A Hydrogen and Helium Closed-cycle Gas Turbines Case Study." *Clean Energy and Sustainability*, 2(2), 10005.
- **Rawesat, A.**, Mohammed, M., Impey, S., & Pilidis, P. (2024). "Greening an Oil Exporting Country: Libyan Hydrogen, Solar and Gas Turbine Case Study." *Ecol. Conserv. Sci.*, 4(11).
- **Rawesat, A.**, & Musa, G. (2024). "Transitioning from Oil Export to Hydrogen via Solar, Wind, and HECCGT." *Ther Res: Open Access*, 1(1), 01-23.
- **Rawesat, A.**, & Pilidis, P. (2024). "A Preliminary Economic Analysis of the Process of Decarbonising an Oil-Exporting Country: The Case of Libya." *Wind (MDPI)*, 4, 395–411.
- **Rawesat, A.**, & Pilidis, P. (2024). "'Greening' an Oil Exporting Country: A Hydrogen, Wind and Gas Turbine Case Study." *Energies (MDPI)*.
- **Aljedek, T. K., Rawesat, A. E.**, & Alrabiti, T. M. (2025). "Integration of Renewable Energy Sources into Electrical Power Grids." *Comprehensive Science Journal (مجلة العلوم الشاملة)*.
- **Rawesat, A.** (2016). "A Feasibility Study of Compressed Air Storage for Power Generation Using Wind Energy." *Sheffield Hallam University*.

Technical & Professional Experience

Electrical Systems Project Supervisor | 1999 – Present

- Specialized in residential electrical installations and grid design for building infrastructure.
- Supervised numerous large-scale construction projects and electrical network implementations.

Technical Instructor (Motor Control) | 2016 *Naval Forces Training Programs*

- Delivered specialized technical courses in Motor Control systems for naval engineering students.

Contributor / Instructor | 2006 *United Nations (UN) Refugee Programs*

Technical Skills & Software

- **Simulation & Modeling:** MATLAB/Simulink (Advanced proficiency), Turbomatch (Gas Turbine Simulation).
- **Expertise:** Green Hydrogen Economy, Grid Decarbonization, and Motion Control Systems.

Languages

- **Arabic:** Native.
- **English:** Full Professional Proficiency (Academic & Technical).