

# Anwr Mohammed

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## Summary

Lecturer in Mechanical Engineering at the University of Wisconsin–Stout with industry and academic experience in dynamics, vibration suppression, mechanism design, and energy systems. Strong record of teaching System Dynamics, Thermodynamics, Heat Transfer, Dynamics, and Capstone, with MATLAB/Simulink integration and hands-on labs. Chartered Engineer (CEng MIMechE).

## Education

- **Ph.D., Mechanical Engineering**, Universiti Teknologi Petronas, Mar 2023. Dissertation: *A Novel Balanced Double Crank Rocker Mechanism for Vibration Suppression*.
- **M.Sc., Mechanical Power Engineering**, Cairo University, Nov 2016. Thesis: *An Artificial Neural Network Model for Gas Turbines Performance Prediction*.
- **B.Sc., Mechanical Engineering**, Sana'a University, Jun 2006. Final Project: *Fluid Power Systems: Approach, Analysis and Control*.

## Academic Experience

- **Lecturer**, University of Wisconsin–Stout, Aug 2024–Present
  - Courses: System Dynamics, Thermodynamics, Heat Transfer, Dynamics, Capstone; online physical lab setup.
  - Advising undergraduate students on course projects, MATLAB-based simulations, and capstone design.
  - Conducting both in-person and online instruction, integrating MATLAB, TILT framework, and hands-on demonstrations.
  - Designing and maintaining lab setups for heat transfer and thermodynamics, ensuring accessibility for online learners.
  - Developing instructional materials and assessments aligned with ABET learning outcomes and continuous improvement reports.
- **Graduate Assistant**, Universiti Teknologi Petronas, May 2019–Mar 2023
  - Supported teaching in Mechanics of Machines, Electrical Power and Machines, Fluid Dynamics, and Thermodynamics.
  - Developed virtual labs (MATLAB/Simulink) for electrical power machines laboratory.
  - Assisted with grading, proctoring, and instructional support.

## Professional Experience

- **Freelance Mechanical Engineering Consultant**, Apr 2023–Aug 2024
- **Sr. Mechanical Engineer**, Petromasila E&P, Yemen, Jan 2016–Dec 2018
- **Mechanical Engineer**, TOTAL E&P, Yemen, Nov 2007–Dec 2015

## **Publications**

- Albaghdadi, A.M., Baharom, M.B., & Sulaiman, S.A. (2021). Parameter design optimization of the crank-rocker engine using the FMINCON function in MATLAB. *IOP Conference Series: Materials Science and Engineering*, 1088(1), 012072.
- Albaghdadi, A.M., Baharom, M.B., & Sulaiman, S.A. (2021). Balancing and Simulation of a Double Crank-Rocker Engine Model for Optimum Reduction of Shaking Forces and Shaking Moments. *Mathematical Modelling of Engineering Problems*, 8(2), 237–245.
- Albaghdadi, A.M., Baharom, M.B., & Sulaiman, S.A. (2021). Tri-planar balancing optimization of a double crank-rocker mechanism for shaking forces and shaking moments reduction. *Proceedings of the Estonian Academy of Sciences*, 70(3), 286–296.
- Albaghdadi, A.M., Baharom, M., & Sulaiman, S. (2022). Hybrid methodology using balancing optimization and vibration analysis to suppress vibrations in a double crank-rocker engine. *Eksplatacja i Niezawodnosc*, 24(1), 53–61.
- Albaghdadi, A.M., Baharom, M., & Sulaiman, S. (2024). Performance Prediction of a Power Generation Gas Turbine Using an Optimized Artificial Neural Network Model. *AJSE*, 23(1), 34–41.

## **Conferences & Presentations**

- International Conference on Artificial Intelligence for Smart Community (Springer LNEE), comparative kinematic analysis using MATLAB and ADAMS.
- Virtual Conference on Engineering & Technology (ViCET 2020), parameter design optimization using fmincon.

## **Professional Service**

- Member, Mechanical Engineering Program Advisory Committee, University of Wisconsin–Stout.

## **Professional Memberships**

- Chartered Engineer (CEng), Member, Institution of Mechanical Engineers (IMechE), UK.
- Member, American Society of Mechanical Engineers (ASME), USA.
- Professional Technologist, Malaysia Board of Technologists (MBOT).

## **Professional Training & Certificates**

- ASME *Drawing Interpretation (GD&T)* — Jul 2025.
- *SOLIDWORKS 2024 Essential Training* —, Jul 2025.
- *Learning PLC Ladder Logic 2: Diving Deeper* — Aug 2025.
- *Introduction to Mill & Lathe Operation* — May 2025.
- *Instructional Design: Adult Learners* — May 2025.
- *In the Shop: Manufacturing* — May 2025.

- CITI Program: *SBE Comprehensive (Basic)* — UW–Stout.
- Industry related: Laser Shaft Alignment (2014), Mechanical Seal Inspection (2013), ISO 14001 (2013), Gas Engine Technology (2013), ROTALIGN PRO (2011), ISO Vibration Analyst CAT I (2010), CATER-PILLAR Gensets Orientation (2010), Vibration Analysis (2009).

### **Skills**

- CAD/FEA: AutoCAD Inventor, CATIA V5; Finite Element Analysis.
- Computational: MATLAB/Simulink; MSC Adams.
- Teaching: Curriculum development, classroom instruction, student assessment.
- Research: Experimental design, data analysis, publication writing.
- Software: MS Office, SAP.
- Languages: Arabic (native), English (fluent), French (basic).