

Curriculum Vitae

Personal information

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Faculty of engineering

Jordan University of Science and Technology University

Irbid, Jordan

Dr. Ahmad Dawahdeh

Education

- May 2017- Dec. 2020 Ph.D. **Mechanical Engineering Texas A&M University Texas-USA.**

Thesis Title: Power loss and heating in couplings and gears

- Jan 2017- May 2017 Ph.D. **Industrial and Systems Engineering (one semester)** Auburn University – Alabama (GPA 4 out of 4) for this semester.
- Feb 2015- Aug 2016 MSc. **Mechanical Engineering** Jordan University of Science and Technology – Jordan. GPA: **93.4%** (**Distinguished**). **First in rank.**

Thesis Title: A theoretical and simulation study for an optimized concentrated solar power thermal storage.

- Sep 2010 – Jan 2015 BSc. **Mechanical Engineering** Jordan University of Science and Technology - Jordan. GPA: **86.2% (Excellent)**, **the best 5%.**

Project Title: Utilizing and optimizing the wasted energy from the gas turbine to drive the absorption cycle

Background Knowledge

- Heat Transfer
- Renewable and sustainable energy systems
- Thermodynamics
- Fluid mechanics

Teaching Experience

- **Undergraduate courses**
 - Applied Math For Engineers
 - Introduction To Renewable Energy
 - Heat Transfer
 - Heating, Ventilation, And Air Conditioning Systems (HVAC)
- **Graduate courses**
 - Concentrated solar power (CSP)
 - Solar desalination

Supervising

- **Master students (Master Thesis):** Advisor and co-advisor for more than 10 master students
- **Bachelor students (Graduation projects):** Advisor for more than 10 students

Scholarships and Rewards

- J. Mike Walker '66 Department of Mechanical Engineering Graduate Excellence Rewards 2019 (From Mechanical Engineering at Texas A&M University)
- Graduate Teacher Assistant at Texas A&M University in 2018,2019,2020.
- Graduate Research Assistant at Texas A&M University 2017, 2018, 2020.
- Graduate Research Assistant at Auburn University 2016.
- Graduate Teacher Assistant at Auburn University 2016.
- Scientific Research Fund for Excellence Academic Scholarship 2015.
- Royal scholarship during bachelor study 2010.

Training and Experience

- Assistant Dean at Faculty of Engineering (JUST) (Sep. 2023-Present)
- Assistance Professor at Faculty of Engineering (JUST) (Mar. 2021-Present)
- Online Teaching Experience using ZOOM and Microsoft Teams.
- Teaching Assistant at Texas A&M University (Sep. 2018- May.2019, Jan. 2020-May.2020)
- Research Assistant at Texas A&M University (Sep. 2017- Sep.2018, Jan. 2020-May.2020)
- Research Assistant at Auburn University (Jan 2017- May 2017)
- Graduate Assistant at Auburn University (Jan 2017- May 2017)

- A mechanical engineer at the MARS robotics company
- Teacher assistant at Jordan University of Science and Technology from (Feb 2015-Aug 2016)
- Association Energy Engineering member (AEE).

Reviewer Experience

Reviewer for several international journals

- Energy Journal
- Renewable Energy Journal
- Applied thermal engineering
- Case studies in thermal engineering
- Results in Engineering Journal
- Engineering and Technology Journal
- Journal of Tribology (ASME)

Publications

- Sharadga, Hussein, **Ahmad Dawahdeh**, and Moh'D. A. Al-Nimr. "A hybrid PV/T and Kalina cycle for power generation." *International Journal of Energy Research* 42.15 (2018): 4817-4829.
- Su, S., Akkara, F., **Dawahdeh, A.**, Borgesen, P. and Qasaimeh, A., 2017, May. Solder joint reliability in isothermal varying load cycling. In *2017 16th IEEE Intersociety Conference on Thermal and Thermomechanical Phenomena in Electronic Systems (ITherm)* (pp. 1331-1336). IEEE.
- Akkara, F., Sinan Su, Sivasubramanian Thirugnanasambandam, **Ahmad Dawahdeh, A.** Qasaimeh, J. Evans, and S. Hamasha. "Effects of long-term aging on SnAgCu solder joints reliability in mechanical cycling fatigue." In *SMTA International Conference*, pp. 17-21. 2017.
- Moh'd A, A.N., **Dawahdeh, A.I.** and Ali, H.A., 2022. Power generation by integrating a thermally regenerative electrochemical cycle (TREC) with a solar pond and underground heat exchanger. *Renewable Energy*, 189, pp.663-675.
- **Dawahdeh, A.I.** and Moh'd A, A.N., 2022. Power generation by integrating a thermally regenerative electrochemical cycle (TREC) with a biofuel stove. *Energy*, 251, p.123870.
- **Dawahdeh, A.I.** and Al-Nimr, M.D.A., 2022. Augmented wind turbine performance using a novel annular circumferential duct design. *International Journal of Energy Research*, 46(15), pp.24424-24440.
- Moh'd A, A.N., **Dawahdeh, A.I.** and Al-Omari, J.A., 2023. Dual power generation modes for thermally regenerative electrochemical cycle integrated with concentrated thermal photovoltaic and phase change material storage. *Journal of Energy Storage*, 58, p.106373.
- **Dawahdeh, A.** and Al-Nimr, M.D., 2023. A novel battery thermal management model in hybrid vehicles using Ranque–Hilsch vortex tube. *Journal of Thermal Analysis and Calorimetry*, 148(20), pp.11349-11359.
- **Dawahdeh, A.I.** and Moh'd A, A.N., 2023. A novel energy harvesting and battery thermal management in hybrid vehicles using a thermally regenerative electrochemical device. *Energy*, 270, p.126865.

- Moh'd A, A.N., **Dawahdeh, A.I.** and Irshed, A.A., 2023. An integrated alkali metal thermoelectric converter with sodium hydroxide thermoelectric water splitter and organic Rankine cycle for efficient power and hydrogen production. *Applied Thermal Engineering*, p.122257.
- **Dawahdeh, A.**, Sharadga, H. and Kumar, S., 2024. Novel MPPT Controller Augmented with Neural Network for Use with Photovoltaic Systems Experiencing Rapid Solar Radiation Changes. *Sustainability*, 16(3), p.1021.

Programming Languages

- COMSOL Multi-Physics simulation program.
- Ansys Simulation Software (CFX, Fluent, Workbench)
- Engineering Equation Solver (EES)
- SOLIDWORKS
- Pro. Engineering (CREO)
- MATLAB, AutoCAD-2D, and 3D.
- HAP
- SAM program
- PV Syst. program

References

- Provided upon request.