

Amer K. Ababneh, PhD

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OBJECTIVE: Facilitate my skills, working experience, capabilities, and educational background in the area of Mechanical Engineering toward the support of higher-education institutions.

GLANCE

Academia: Associate Professor; Hashemite University/Mechanical Eng. Department.
Assistant Professor; Al-Balqa' University/Mechanical Eng. Department

Taught Courses: Advanced Thermodynamics, Solar Energy Engineering, Turbomachinery, Fluid Mechanics, Applied Heat Transfer, Thermal System Design, Numerical Methods for Engineers, and others.

Graduate Program: Support the program by regularly teaching courses and supervised several master student on their thesis works.

Areas of Research: Development and enhancement of systems for efficient energy utilization; Fluid Mechanics; Thermal Fluid Systems.

Current research Activities:

- 1- Proposal for building a 12-kW solar dish at the HU employing a new novelty for enhancing overall efficiency that includes the use of thermoelectric generators and organic fluid.
- 2- Theoretical assessment of triple-effect absorption system driven by solar energy collected by PTCs.
- 3- Theoretical assessment of systems driven by solar for efficient seawater desalination.

Past Work Experience:

- 1- **General Dynamics-USA**/Thermal Systems design, analysis and actual integration into ground vehicles.
- 2- **NASA, Lockheed Martin-USA**/Thermal Systems; Thermal Engineer; design, analysis and testing of new concepts for implementation into space applications and astronauts support.
- 3- **Go/Dan Industries-USA**/Test Engineer of auto radiators and specialized heat exchangers.

EDUCATION:

Ph.D., Fluid Mechanics/Mechanical Engineering March 2003

The George Washington University; Washington, DC - USA

MS (with thesis), Fluid Mechanics/Mechanical Engineering (1989)

Thermal Sciences; minor

University of Houston; Houston, Texas - USA

BS, Mechanical Engineering (1984)

Lamar University; Beaumont, Texas - USA

Computer Utilities: Visual **BASIC & FORTRAN** and C++, extensive use of **FLUENT/GAMBIT & SINDA/FLUINT**. **Developed many computer codes for numerical simulation of various applications.**

Activities

- 1- Coordinated the project JoRiew “Improving Capacity of Jordanian Research in Integrated Renewable Energy and Water Supply” from the period starting summer 2012 until its end in April 2014. The project was funded by the European Commission with the aim of increasing cooperation between Jordanian researchers with their counter part from the European Continent to resolve problems in the area of energy and water supplies. The project included partners from Croatia, Greece, Denmark, Serbia and Hungary.
- 2- Training sessions. Held several training sessions in the premises of the Hashemite University with the aim of educating and informing Jordanian Academic and Industrial Communities about the opportunities within the framework of projects funded by the European Commission and specifically those projects that targeted the Mediterranean countries. The invitation was open to all Hashemite staff, other Jordanian universities and local industries interested in renewable energy and water supplies.
- 3- Holding and Chairing the IREDeW2013 Conference, International Conference on Integrated Renewable Energy and Water Desalination, 7th – 9th October 2013, Zarqa, Jordan. The conference was to represent the cultivation of the JoRiew project with emphasis on renewable energy and water desalination. The invitation was open to academia and industries in Jordan as well as in other countries. The theme of the conference was about renewable energy and sustainable water resources. More than thirty scientific papers were presented.

- 4- Principal researcher for proposal to build a 12-kW solar dish at the HU which includes a new novelty for enhancing overall thermal efficiency by using thermoelectric generators and organic fluid.

Publications

JOURNALS:

- 1- A novelty for thermal energy storage utilizing the principle of solid to solid phase change in a lithium sulfate at elevated temperatures. *Solar Energy*, vol 163, pp 45-53. 2018. **Amer Khalil Ababneh**, Amjad S. Hijazin, Ali M. Jawarneh.
- 2- Double vortex generators for increasing the separation efficiency of the air separator, *International Journal of Heat and Technology (IJHT)*, Vol. 35, No. 3, September 2017, pp. 529-538. Jawarneh A.M, Al-Widyan M., Al-Migdady A., Tlilan H., Tarawneh M., and **Ababneh A.**
- 3- Performance Evaluation of Solar Parabolic Trough Collector for the Application of Seawater Desalination. *International Journal of Mechanical Engineering (IREME)*. **Amer K Ababneh**, A. Jawarneh, M. Tarawneh, H. Tlilan, N. Duke, Yr. 2016. pp 12. Area: Renewable energy/solar energy.
- 4- Solar Energy Availability on Horizontal and Tilted Surfaces: a Case Study. *International Journal of Mechanical Engineering (IREME)*. *Ali Jawarneh*, *Mohammad Al-Tarawneh*, **Amer Ababneh**, *Hitham Tlilan*, Yr. 2012. Pp17. Area: Solar energy/data and measurements.
- 5- Assessment of Annual Yield of Fresh Water from A Hybrid Desalination Scheme Utilizing Solar Parabolic Trough Collector Augmented by Fuel. *Journal: International Journal of Environmental Science*. **Amer Khalil Ababneh**, Vol&No: Vol 1, 2016. Yr. 2016. pp 5. Area: Renewable Energy/Solar energy for desalination. Area: Solar energy and water supplies.
- 6- **The influence of reverse osmosis desalination in a combination with pump storage on the penetration of wind and PV energy: A case study for Jordan**, *Energy*, Vol 76, pp 73-81, 2014, T.Novosel^a B.Ćosić^a G.Krajačić^a N.Duić^a T.Pukšec^a M.S.Mohsen^b M.S.Ashhab^c **A.K.Ababneh^c**
- 7- Energy Conservation Using a Double-effect Absorption Cycle Driven by Solar Energy and Fossil Fuel. **Amer Khalil Ababneh**, Volume 5, Number 3. 2011. pp213-219. Area Renewable energy. *Journal: Jordan Journal of Mechanical and Industrial Engineering*.

- 8- The effects of the secondary fluid temperature on the energy Transfer in an Unsteady Ejector with a Radial-Flow Diffuser. **Amer K Ababneh, A. Jawarneh,, H.Tililan, M.K Ababneh**, Vol 46. NO 2. Yr 2009. Journal Heat Mass Transfer.
- 9- Enhancement of a cylindrical separator efficiency by using double vortex generators. Journal: Energy Conversion and Management. **A. Jawarneh, M. Tarawneh, Ahmad Al-Shyyab, H.Tililan, Amer K Ababneh**, Vol 50. Yr 2009. pp1625–1633. Area: Fluid Flow.
- 10-Investigation of the Mach Number Effects on Fluid-to-Fluid Interaction in an Unsteady Ejector with a Radial-Flow Diffuser. Jordan Journal of Mechanical and Industrial Engineering. **Amer K Ababneh, G. Garris, A. Jawarneh,, H.Tililan**, Vol&No: Volume 3, Number 2. Yr: 2009. pp131-140Area: Fluid Flow.
- 11-Analytical Approximate Solution for Decaying Laminar Swirling Flows within A Narrow Annulus. **Ali. Jawarneh, Georgios H. Vatistas, Amer K Ababneh**, Jordan Journal of Mechanical and Industrial Engineering. Vol 2 & No: Volume 2, Number 2. Yr: 2008. pp101 – 109. Area: Fluid Flow.
- 12-STRAIN-CONCENTRATION FACTOR OF CIRCUMFERENTIALLY. Journal of Mechanics. **H.M.Tililan, A.S. Al-Shyyab, A K Ababneh, A.M. Jawarneh**, Vol&No: Vol. 24, No. 4. Yr: 2008. pp419-427. Area: Applied Mechanics

CONFERENCES:

- 1- Assessment of Annual Yield of Fresh Water from A Hybrid Desalination Scheme Utilizing Solar Parabolic Trough Collector Augmented by Fuel. **Amer Khalil Ababneh** Conf Title: Water Resources, Hydraulics & Hydrology. Yr 2016. Istanbul, Turkey. pp1-6. Area: Renewable energy and water supplies.
- 2- Direct interaction of fluid-to-fluid in an unsteady ejector with a zero-degree ASME 2009 Conference title: Fluids Engineering Division Summer Meeting. 2009. **Amer Khalil Ababneh, Charles Garris Jr**, Vail, Colorado USA. pp1-8. Area: Fluid Flow.