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I am a highly motivated Sustainable and Renewable Energy engineer with in-depth knowledge in research, laboratory, analytical strategies, and writing scientific publications skills. My key strengths include:

- Research skills in the field of sustainable and renewable energy engineering
- Analytical thinking and logical approach to work
- Writing scientific papers in the field of science and engineering
- Having excellent scientific and engineering laboratory skills
- Operating several laboratory equipment and conducting experiments in different applied science and engineering fields
- Collecting and analyzing data in the field of renewable and sustainable energy and energy storage systems research
- Solid background in Mechanical Engineering and Sustainable and Renewable Energy Engineering Sciences: Heat transfer, Fluid Mechanics, Thermodynamics, Geothermal Energy systems, Biomass Energy conversion processes, Solar Energy systems, and Materials Science.
- Excellent communication and presentation skills

Having completed my bachelor's degree in Sustainable and Renewable Energy Engineering, and developing good knowledge and experience in the scientific research field by working as a research assistant for three years, I'm now seeking the opportunity to continue my master's and Ph degrees along with continuing my research.

## **PERSONAL INFORMATION**

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**Date of birth:** October 15<sup>th</sup> – 1993  
**Place of birth:** Madrid - Spain  
**Nationality:** Spain  
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## **EDUCATION**

### ***September 2019 – December 2019:***

Visiting student at Mechanical Engineering Department, University of Sharjah, Sharjah, UAE. (CGPA: 3 / 4). Studied courses:

- **0408200 Mechanical Dynamics**
- **0408203 Strength of Materials**

**September 2012 – December 2017:**

Bachelor of Science in Sustainable and Renewable Energy Engineering, University of Sharjah, Sharjah, UAE. (CGPA: 3.59 / 4).

**2010 – 2011:**

High school certificate, scientific stream, 100%.

**EXPERIENCE**

**September 2017 – present**

Research Assistant, Sustainable Energy Development Research Group, Research Institute of Science and Engineering, University of Sharjah, UAE.

- Performing extensive literature reviews and comparing different studies in different research areas.
- Collecting and analyzing data.
- Simulating different engineering systems and problems
- Conducting laboratory experiments
- Writing complete scientific publications (Review papers, journal, and conference research papers)
- Admission and leadership tasks.

**Research Interests:**

- Renewable Energy (Geothermal Energy Systems, Biomass Energy Systems, Solar Energy Systems)
- Waste to Energy Conversion Processes (Anaerobic Digestion, Transesterification, Pyrolysis, Gasification)
- Renewable and Alternative fuels (Biofuels: Biodiesel, Bio-methane, Biogas, Syngas, Bio-oil, and Hydrogen)
- Sustainability, Energy, and Energy Efficiency
- Engineering management
- Modeling and Simulation of Energy Systems
- Clean Energy Technologies
- Energy Conversion and Hybrid power systems
- Combustion (Solid, Liquid, Gas fuels), Heat Transfer, and Computational Fluid Dynamics (CFD)
- Nano-materials for energy conversion and energy storage systems
- Renewable Energy for Desalination System.

**May 2015 – January 2016:**

**Admission Employer** in the Admission Department of University of Sharjah

- Used "**Banner**" software to insert students' information.
- Wrote " To whom it may concern" letters.
- Made a detailed list of files.
- Made registration forms for new students.

## **TRAINING, PROJECTS, AWARDS, INVENTIONS**

**July 2017 – August 2017:**

Summer internship in Enerwhere Sustainable Energy DMCC, Dubai, UAE.

**Fall 2013 – 2014**

Design and implementation of a Solar Sliding Gate project in the Introduction to Energy Science and Technology course and participating in the final stage of The Renewable Challenge competition.

**Spring 2013 – 2014**

Design and implementation of "Alsaqiyya" project in the Fluid Mechanics course and participating in the final stage of The Renewable Challenge competition.

**2017 – 2018**

Worked on a graduation project: Simulation of geothermal energy well-reservoir: Testing and Modeling.

**2017 – 2018**

Presentation skills course.

## **ACTIVITIES AND SCIENTIFIC PUBLICATIONS**

1. Anvari-Moghaddam, A., El Haj Assad, M., Ahmadi, M., Sadeghzadeh, M., **Albawab, M.**, Bani Hani, E., Al-Shabi, M. (2021). **Space Cooling Using Geothermal Single Lithium Bromide/Water Absorption Chiller**. Journal of Energy Science and Engineering. Accepted. DOI: 10.1002.ese3.946.
2. **Albawab, M.**, Ghenai, C., Bettayeb, M., & Janajreh, I. (2020). **Sustainability Performance Index for Ranking Energy Storage Technologies using Multi-Criteria Decision-Making Model and Hybrid Computational Method**. *Journal of Energy Storage*, 32, 101820. doi:

10.1016/j.est.2020.101820.<https://www.sciencedirect.com/science/article/pii/S2352152X20316571?dgcid=author>

3. Tawalbeh, M., Salameh, T., **Albawab, M.**, Al-Othman, A., El Haj Assad, M., & Alami, A. (2020). **Parametric Study of a Single Effect Lithium Bromide-Water Absorption Chiller Powered by a Renewable Heat Source**. *Journal of Sustainable Development of Energy, Water And Environment Systems*, 8 (3), 464-475. doi: 10.13044/j.sdewes.d7.0290
4. Ghenai, C., **Albawab, M.**, & Bettayeb, M. (2020). **Sustainability indicators for renewable energy systems using multi-criteria decision-making model and extended SWARA/ARAS hybrid method**. *Renewable Energy*, 146, 580-597. doi: 10.1016/j.renene.2019.06.157.
5. **Albawab, M.**, Ghenai, C., & Bettayeb, M. (2019). **Development of Sustainability Indicators for Renewable Energy Systems: A Comprehensive Review**. 12<sup>th</sup> International Conference on Sustainable Energy & Environmental Protection, SEEP 2019, 18 -21 November, University of Sharjah, Sharjah, UAE.
6. El Haj Assad, M., Khosravi, A., Said, Z., **Albawab, M.**, & Salameh, T. (2019). **Parametric study of geothermal parallel flow double-effect water-LiBr absorption chiller**. In *Advances in Science and Engineering Technology, IEEE*. Dubai – UAE.
7. El Haj Assad, M., Khosravi, A., **Albawab, M.**, Salameh, T., Tawalbeh, M., Al-Othman, A., & Said, Z. (2019). **Thermodynamic analysis of geothermal series flow double-effect water/LiBr absorption chiller**. In *Advances in Science and Engineering Technology, IEEE*. Dubai - UAE.
8. Tawalbeh, M., Salameh, T., **Albawab, M.**, Al-Othman, A., El Haj Assad, M., & Alami, A. (2018). **Parametric Study of a Single Effect Lithium Bromide-Water Absorption Chiller Powered by a Geothermal Heat Source**. In *The International Conference on Energy, Water & Environmental Sciences (ICEWES 2018)*. Ras Al Khaimah – UAE.
9. Salameh, T., Tawalbeh, M., **Albawab, M.**, Alami, A., Al-Othman, A., & El Haj Assad, M. (2018). **Simulation of a Residential Space Cooling System by Geothermal Energy in The UAE**. In *The International Conference on Energy, Water & Environmental Sciences (ICEWES 2018)*. Ras Al Khaimah – UAE.

## **APPLIED SCIENCE AND ENGINEERING LABORATORY** **EQUIPMENT KNOWLEDGE**

- SFT-110 Supercritical Fluid Extraction System - Supercritical Fluid Extraction Technologies, INC.
- Thermogravimetric Analyzer, TGA-50 series, SHIMADZU
- Simultaneous Thermogravimetric Analyzer (TGA) – STA 449 F5 Jupiter (NETZSCH)
- Fourier Transform Infrared Spectrometer, FT/IR-6300, Jasco
- Extraction System B-811, B'U'CHI
- Computer Controlled Biogas Process Unit (Edibon)
- Distek Model 2500 Dissolution Test System
- 6400 Automatic Isoperibol Calorimeter (Parr Instrument Company)
- InfraCal 2 Biodiesel blend analyzer
- Automatic Methane Potential Test System (AMPTS II)
- DYNOMite Dynamometer (Model# 011-020-2K) and EMS Portable Exhaust Gas Analyzer (Model# 5003)
- 3000 Micro GC Gas Analyzer (INFICON)
- Multiple Wavelength Portable Specular Reflectometer Model 15R-RGB
- KD-2 Pro Thermal Properties Analyzer  
Measures thermal conductivity and resistivity, volumetric specific heat capacity, and thermal diffusivity of nanofluids
- HAAKE Viscotester iQ with ball bearing drive motor
- LDV2T viscometer (BrokField Meter)  
Measures fluid parameters of shear stress and Viscosity at given shear Rates of nanofluids
- Portable Density/Specific Gravity Meter (KEM KYOTO Electronics manufacturing DA-130N)  
Measures the density of nanofluids
- Precise Weighing Scale (Highland portable balance\_HCB602H)
- LC 100 Spectrocolorimeter
- SONOREX DIGIPLUS Ultrasonic bath for aqueous fluids (DL 255 H\_BANDELIN)

- Cole-Parmer G2 Heavy-Duty Turbine Flowmeter/Totalizer; (09 Computer Electronics with Turbine Housing) 1-10 GPM, 316 SS, 3/4" Sanitary, Item# 05609 - 05 / Meter Model: C2S05T09GMA
- Infrared and Full Spectrum Sensor PMA 2144 Class II Pyranometer (Solar light company)
- Data Logging Radiometer/Photometer PMA2100 (Solar light), Dual-Input Radiometer / Photometer with On-Board Data Logging
- Allied Vision Prosilica GE 1650 Camera (Charge-Coupled Device (CCD)\_ Camera based on Liquid Crystal Thermography)
- Power Pallet - PP20 (GEK Gasifier Kit)
- CCD-Simultaneous ICP-OES (VISTA-MPX)
- Elemental Analyzer (Vario MACRO cube)
- DAIHAN Soxhlet Apparatus complete with a heating mantle
- DAIHAN Digital Rotary Evaporator (WEV-1001L)
- DAIHAN Digital Muffle Furnace (FHX-05).
- Titan S8 Data Logging system (Madge Tech).

## **COMPUTER SKILLS**

- Microsoft Office: Word, Excel, PowerPoint
- OriginPro (Data Analysis software)
- Computer-aided design (CAD) and drafting software, AutoCAD
- Autodesk Rivet modeling software
- Programming and simulation: C++, Matrix Laboratory (MATLAB), Computational Fluid Dynamics (ANSYS)
- PC based simulation program with integrated circuit emphasis (PSPICE)
- Hybrid Ground – Coupled Heat Pump (HyGCHP) modeling tool (TRNSYS)
- CES EduPack (Set of teaching resources that support Materials Education across Engineering, Design, Science, and Sustainable Development)
- Engineering Equation Solver (EES)
- Design-Expert, State-Ease.

## **LANGUAGES**

- Arabic (Native)
- English (Fluent)

- Spanish (Basics).