

**Shaimaa M. Ameen**  
**Diyala, Iraq**  
Email: **Sheymaa\_alzzzawi\_eng@uodiyala.edu.iq**

**Southern Illinois University, Carbondale, IL, USA** **Aug 2014-Aug 2019**  
PhD in Engineering Science, Concentration: Mechanical Engineering.  
GPA: (3.9/4)  
Dissertation Title: *Designing a Smart Greenhouse Ventilation Window Based on NiTi SMA Actuator*  
Advisor; Dr. Peter Filip

- The vice president of ASHRAE student chapter in SIUC, 2019
- SIU COPE fund award 2019
- The prestigious doctoral scholarship awards (6 full years) 2013-2019

**Baghdad University, Iraq, Baghdad** **Aug 2002-Sep 2005**  
M.SC. in Mechanical Engineering  
Thesis Title: Heat and Mass Transfer Analysis During Food Drying  
Advisor: Dr: Manal Saleh

**University of Technology, Iraq, Baghdad** **Sep 1995-May 1999**  
B.SC. in Mechanical Engineering, HVAC.

### **Academic Experience**

**University of Diyala, Diyala, Iraq** **Sep 2019-Current**  
Lecturer, Math I, Math II

**Southern Illinois University, Carbondale, USA** **Aug 2013-Aug 2019**  
Graduate Student Researcher, Smart Materials

**University of Diyala, Diyala, Iraq** **Sep 2005-Jun 2009**  
Assistant Lecturer, Numerical analysis, Heat transfer

**University of Baghdad, Baghdad, Iraq** **Aug 2002–Sep 2005**  
Graduate student

**University of Diyala, Diyala, Iraq** **Dec 2000-Aug 2002**  
Laboratory Supervisor, Electrical circuits

### **Research Interests**

Thermomechanical Characterizations of NiTi SMA Actuator  
Finite Element Modeling and Simulation Using ANSYS  
Smart material self-sensing-actuating design  
Microstructural and Morphological Characterization of materials  
Statistical Experimental Design and Analysis Techniques  
Scanning Electron Microscopy (SEM)  
Chemical Microanalysis Techniques such as EDS and EDX

## **Publications**

### **Journal Publications and Dissertation:**

1. Alazzawi, S., Filip, P., “Design exploration study of passive window based on bent NiTi actuator” ,the second international scientific conference of engineering sciences ISCES, Material science and Engineering IOP publishing, Vol 1076, Feb,2021
2. Alazzawi, S., Filip, P., “Modeling the Transient Behavior of NiTi SMA Actuator Using Finite Element Analysis: Parametric Study of Rate Effects”. Results in Materials Journal, Aug 2019
3. Alazzawi, S., Filip, P., “Designing a Greenhouse Ventilation Window Based on NiTi SMA Actuator”. PhD Dissertation, Mechanical Engineering and Energy Processes Department - SIUC, 2019
4. Alazzawi, S., Saleh, M., “Heat and Mass Transfer Analyses During Food Drying”. Journal of Engineering, 2005, Vol 45, No. 1, PP 123-134.
5. Numerical study of a cantilever beam carrying a crack by response surface methodology, Materials today, 2022
6. Parametric studies of friction stir welding with tool using a vibrating shoulder, Materials today, 2022.
7. Effect of Glycolic Acid Ethoxylate Lauryl Ether (GAL) Surfactant Solutions among Low and High Concentrations on Drag Reduction to Progress Flow in the Pipeline Networks Using RDA, Materials science and engineering, 2022.

## **Soft Skills**

- Software Skills: ANSYS, MATLAB, JMP (Design and Analysis of Experiment Software), MS office, Autodesk Inventor, Visual Basics, Pro/Engineering, data collection software, fusion360 and 3D Slicer.
- Language proficiency: English, Arabic (both fluent).

## **Conferences**

- Solid works, 3-D experience world 2021 conference, February 2021, Virtual
- ASME IWME, Increasing Women in Mechanical Engineering Conference, January 2021, Virtual.
- Level up with Ansys mechanical conference, December 2020, Virtual.
- The 2<sup>nd</sup> international scientific conference of engineering sciences ISCES, December 2020.
- ASNT annual conference, November 2020, Virtual.
- 2019 ASHRAE Annual Conference, Kansas City, MO

- ASNT Annual Conference, October ,2018. Houston, TX
- Participated in the Student Creative Activities and Research Forum at Southern Illinois University with a poster entitled “ Reducing Energy Consumption of Actuators Using NiTi SMA Actuator”, April/2018