**Academic Staff CV**

**Personal information:**

Name: Wessam Al Azzawi

Place and date of birth: Iraq / Baghdad 7/3/1974

Nationality: Iraqi

Degree: PhD

Field: Mechanical Engineering

Specialty: Applied mechanicals / Composite materials

Languages: Arabic and English

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**Qualifications:**

* PhD. Mechanical Engineering / Applied Mechanics / College of Electrical and Mechanical Engineering / University of Southern Queensland / Australia - 2019.
* MSc. Mechanical Engineering / Applied Mechanics / College of Engineering / University of Baghdad / 1998.
* BSc. Mechanical Engineering / Aeronautic section / College of Engineering / University of Baghdad / 1995.

**Expertise:**

* Academic staff member at Materials Engineering Dept. / College of Engineering / University of Diyala since 2018 till present.
* Academic staff member at the Electrical Power Engineering Dept. / College of Engineering / University of Diyala, 2005-2013.
* Technical manager at the Modern Co. / Republic of Yemen, 2001-2009.
* Head of the postgraduate section at the University of Diyala / Engineering College since 2019 till present.
* Member of the Australian Nanotechnology organization (ANN)
* Head of the Scholarships and Cultural Relationships section at the University of Diyala / Engineering College since 2010 – 2013.
* Reviewer of many local and foreign peer reviewed journals.
* Member of the examination committee at the Power Engineering and Materials Engineering Depts. / at the Materials Engineering Dept. / College of Engineering / University of Diyala.
* Member of the Quality committee at the Materials Engineering Dept. / College of Engineering / University of Diyala.
* Chair of the Web site committee at the Materials Engineering Dept. / College of Engineering / University of Diyala.

**Subjects that have been taught:**

* Engineering Mechanics (static and dynamic)
* Applied Mathematics
* Theory of Machines
* Composite Materials
* Graduation projects
* Advanced Composite Materials (Postgraduate)
* Supervision of many undergraduate and postgraduate students.
* Provided many training courses in different engineering fields.

**Publications:**

1. **Thesis**

* PhD thesis submitted to USQ / Australia

*Development of Fibre Reinforced Shape Memory Polymer Composites (SMPCs) for Morphing Structures and Finite Element Modeling of Shape Memory Behaviour of the SMPCs*

* Master thesis submitted to the college of Engineering / University of Baghdad

*Static and dynamic behavior of orthotropic laminated plates subjected to general loading conditions*

1. **Books contribution**

* **Book chapter** “*Shape Memory Polymers and Their Applications*” in **book** “*Structural Health Monitoring Technologies and Next-Generation Smart Composite Structures*”
* **Book chapter** “*Modelling, Analysis and Testing of Viscoelastic Properties of Shape Memory Polymer Composites (SMPCs) and a Brief Review of Their Space Engineering Applications*” in **book** “Creep and Fatigue in Polymer Matrix Composite”

1. **Journals publications**

* Al Azzawi, W., Islam, M.M., Leng, J., Li, F. and Epaarachchi, J.A., 2017. *Quantitative and qualitative analyses of mechanical behavior and dimensional stability of styrene-based shape memory composites*. Journal of Intelligent Material Systems and Structures, 28(20), pp.3115-3126
* Al Azzawi, W., Epaarachchi, J.A., Islam, M. and Leng, J., 2017. Implementation of a finite element analysis procedure for structural analysis of shape memory behaviour of fibre reinforced shape memory polymer composites. Smart Materials and Structures, 26(12), p.125002.
* Al Azzawi, W., Epaarachchi, J.A. and Leng, J., 2018. Investigation of ultraviolet radiation effects on thermomechanical properties and shape memory behaviour of styrene-based shape memory polymers and its composite. Composites Science and Technology, 165, pp.266-273.
* Herath, H.M.C.M., Epaarachchi, J.A., Islam, M.M., Al-Azzawi, W., Leng, J. and Zhang, F., 2018. Structural performance and photothermal recovery of carbon fibre reinforced shape memory polymer. Composites Science and Technology, 167, pp.206-214.
* Azzawi, Wessam Al. "Development and performance evaluation of a morphing wing design using shape memory polymer and composite corrugated structure." Australian Journal of Mechanical Engineering (2022): 1-15.‏
* Mohammed, A. A., Haris, S. M., & Al Azzawi, W. (2020). Estimation of the ultimate tensile strength and yield strength for the pure metals and alloys by using the acoustic wave properties. *Scientific reports*, *10*(1), 1-12.‏

**Conferences**

* Al Azzawi, W., Epaarachchi, J.A. and Leng, J., Evaluating the temperature and glass fibre reinforcement effects on the damping properties of the shape memory polymers, 21st International Conference on Composite Materials Xi’an, 20-25th August 2017
* Herath, M., Al-Azzawi, W., Epaarachchi, J., Islam, M., Robertson, S., Leng, J. and Zhang, F., 2018, February. Thermo-mechanical behaviour and shape memory characteristics of carbon fibre reinforced epoxy. In 2018 International Conference on Nanoscience and Nanotechnology Poster Session Abstracts (ICONN 2018). International Conference on Nanoscience and Nonaotechnology.
* Mohammed, A. A., & Al Azzawi, W. (2021, February). Drawing the Tensile Curve for Pure Metals and Alloys Depending On Crystal Structure and Acoustic Impedance. In *IOP Conference Series: Materials Science and Engineering* (Vol. 1076, No. 1, p. 012084). IOP Publishing.‏
* KADHIM, Hala M., et al. Evaluation of the Mechanical Characteristics of Hybrid Nanocomposite Materials (TiO2-SiO2-ZrO2). In: *IOP Conference Series: Materials Science and Engineering*. IOP Publishing, 2021. p. 012083.‏