Jafar A.H. Masri

Nablus, Palestine
Mobile: [redacted] ; +447514584363 / Email: jafar-masri@hotmail.com ; j.masri@ptuk.edu.ps

Head of Automotive Engineering Department at Palestine Technical University - Kadoorie

- Academic researcher in the field of dynamic stability of ground effect vehicles.
- Energetic and talented researcher with a strong desire to build a research career in automotive, aeronautical and aerospace engineering.
- Passionate, self-motivated individual with a drive to succeed.
- International Alumni Ambassador of City, University of London in Palestine.
- Affiliate member of the Royal Aeronautical Society (RAeS).
- Member of the International Society of Automotive Engineers (SAE).
- Member of the Palestinian Engineers Association.

Key Skills

- Strong interest and knowledge in Vehicle Engineering and design.
- Interpersonal skills: ability to motivate and influence others.
- Self-awareness: I know my objectives.
- Creative team leadership skills.
- Creative approach in solving problems.
- Ability to analyse and interpret data.
- Excellent math, IT and communication skills.
- Flexible and adaptable.

Professional Experience

- **Palestine Technical University – Kadoorie**. **Tulkarm, Palestine**.

Head of Automotive Engineering Department, 10/2021 to present.

- **Palestine Technical University – Kadoorie**. **Tulkarm, Palestine**.

Assistant Professor of Automotive Engineering, 12/2020 to 9/2021.

- **Palestine Technical University – Kadoorie**. **Tulkarm, Palestine**.

Lecturer of Automotive Engineering, 1/2017 to 11/2020.
I was on leave from 9/2017 till 6/2020 during which I completed a PhD in Mechanical Engineering at Northumbria University in the UK.

- **Northumbria University. Newcastle upon Tyne, United Kingdom.**

Part Time Tutor, 1/2018 to 5/2020: *During my Ph.D. study, I taught Mechanical and Structural Systems II (Dynamics) and Engineering Analytics for 2nd year engineering students.*

- **Ritz Motors Ltd. Ramallah, Palestine** - *The official dealer of Jaguar Land Rover in Palestine.*

Technical Assistant, 2/2016 to 1/2017.

- Provided technical support to dealership in the campaigns and bulletins issued by JLR.
- Coached the technicians through JLR online training courses.
- Workshop quality control.
- Supported the technicians through the diagnosis of faults using JLR approved software tools.

- **United Motor Trade. Nablus, Palestine** - *The official dealer of VW Group in Palestine.*

Vehicle Diagnostic Engineer, 4/2014 to 7/2014

- Vehicle fault finding using VW approved software tools.
- Testing the Technical Product Information sent by VW.

Education

- **Northumbria University, Newcastle upon Tyne, United Kingdom**

Ph.D. Mechanical Engineering, 6/2020

Ph.D. research title: 'An Investigation into Dynamic Stability of Ground Effect Vehicles on Take-off and Landing'

The aim of this research is to analytically investigate the dynamic stability of ground effect vehicles during take-off and landing. Waterborne aircraft is also known as seaplane, ground effect vehicle or wing in ground effect vehicle. This study is the first of its kind to use the coupled nonlinear Duffing equation to describe the motion of seaplanes through head sea waves. In this research, the Poincare-Lindstedt perturbation technique is used to obtain analytical solution to the nonlinear equations of motion. The solution is then used to describe the effect of nonlinearity and coupling on the frequency of oscillations and amplitude of motion. The method of Savitsky to study the dynamic stability of planing hulls is extended using the analytical solution obtained. The analytical results are verified with numerical results obtained from Ansys Fluent CFD software and Ansys AQWA.

- **City, University of London, London, United Kingdom**

M.Sc. Automotive Engineering with Merit, 10/2015

Key Modules:

- Engineering Applications of Computational Fluid Dynamics (CFD).
- Internal Combustion Engines.
- Performance of Internal Combustion Engines: Automotive and Powertrain Generation.
- Computer Aided Design with CATIA.
- Vehicle Technology.
- Advanced Mechatronics.
- Research Skills.

- **An-Najah National University, Nablus, Palestine.**

B.Sc. Mechanical Engineering, 12/2013

Key Modules:

- Internal Combustion Engines.
- Design of Machines.
- Thermodynamics.
- Mechanical Drawing using AutoCAD.

Key Engineering Projects

- My Ph.D. research project described above.

- Prediction of the Characteristic Map of a Centrifugal Compressor Using CFD: the different loss mechanisms that affect the performance of centrifugal compressors have been investigated and then a performance prediction tool is created using Visual Basic software. The tool was used to obtain the performance maps of a centrifugal compressor. Then the results obtained are validated using CFD in which Ansys CFX solver is used to obtain the performance maps of the centrifugal compressor and finally the results obtained from both methods are compared with experimental results available. This was my M.Sc. research project.

- Design of Solar Cooling Device Enhanced with Evacuated Tube and Radiation Concentrator: this project was my graduation project in my undergraduate studies. The project covered several topics in renewable energy technologies. Nevertheless, it involved designing and constructing a solar refrigeration system that works with almost no maintenance requirements and no moving parts at all.

Honours/Awards

- Northumbria University Faculty Funded Researcher Development Framework (RDF): Academic excellence fully funded PhD studentship worth almost £85000.

Conferences Attended

- 6th Aircraft Structural Design Conference organised by the Royal Aeronautical Society. Bristol, UK, 09-11 Oct. 2018.
- The Research and Education in Aircraft Design (READ) Conference & The European Workshop on Aircraft Design Education (EWADE) organised by the Institute of Aerospace Technology, Brno University of Technology. Brno, Czech Republic, 07-09 Nov. 2018.
- The 3rd IMA Conference on Nonlinearity and Coherent Structures, Newcastle upon Tyne, UK, Jul. 10-12, 2019.
- Aerospace Europe2020 Conference, Bordeaux, France, Feb. 25-28, 2020.

Key Publications

- J. Masri, L. Dala and B. Huard, "A review of the analytical methods used for seaplanes' performance prediction", *Aircraft Engineering and Aerospace Technology*, vol. 91, no. 6, pp. 820-833, 2019. Available: 10.1108/aeat-07-2018-0186.
- M. Ismail, A. Alkhazaleh, J. Masri, A. Ali and M. Ali, "Experimental and Numerical Analysis of Paraffin Waxes during Solidification inside Spherical Capsules", *Thermal Science and Engineering Progress*, p. 101095, 2021. Available: 10.1016/j.tsep.2021.101095.

Computer Skills

- Microsoft Office.
- Solidworks (CAD).
- Ansys Engineering simulation software (CFD).
- MATLAB.
- Visual Basic.

References

Available upon request