



# JAFAR MASRI

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## PROFESSIONAL SUMMARY

A computational (CFD) and analytical (Asymptotic Expansions to solve nonlinear, coupled, forced ODEs) research and teaching professional with a PhD from the University of Northumbria at Newcastle (2020) and an MSc from City, University of London (2015), as well as over 6 years of university teaching experience. Proactive and self-motivated, with practical problem-solving and decision-making abilities, along with the capacity to execute change, capture needs, design solutions, and deliver results. Experienced in working in fast-paced environments. A collaborative and independent thinker with a creative and inventive approach to problem solving.

## SKILLS

- Strong interest and knowledge in Analytical Mechanics
- Excellent math skills: ability to use perturbation techniques to solve 3rd order nonlinear, coupled, forced ODEs
- Excellent IT, CAD and communication skills
- Interpersonal skills: ability to motivate and influence others.
- Computational Fluid Dynamics (Multiphase flow, Transient, Dynamic Mesh)
- Self-awareness: I know my objectives
- Creative approach in solving problems
- Programming: MATLAB, Visual Basic, Overleaf Latex
- CFD Packages: Ansys Fluent, Ansys CFX, Ansys Hydrodynamic Diffraction, AQWA
- CAD Packages: Designmodeler, Solidworks, and Spaceclaim
- Student Needs Assessment
- Continuing Education
- Online Learning Tools
- Classroom Presentations
- Thesis Advisement
- Lesson Plan Creation
- Academic Publication
- Student Engagement

## EXPERIENCE

October 2023 - Current

Head of Mechanical Engineering Department

Palestine Technical University - Kadoorie | Tulkarm, Palestine

- Provide strategic direction and leadership to the academic department, aligning its goals with the institution's overall mission and objectives
- Effective management of all staff in the Education and Research job family, plus other staff as delegated by the Dean, through the establishment and operation of an effective Departmental leadership team
- Supervise and evaluate departmental faculty and staff, promoting professional development and ensuring high-quality teaching and research
- Develop and review academic programs and courses, ensuring their alignment

with industry standards and accreditation requirements

- Monitor and assess program outcomes and student learning to ensure continuous improvement and alignment with institutional goals
- Provide mentoring, guidance, and support to faculty and staff, promoting their professional growth and development

**October 2021 - Current**

**Head of Automotive Engineering Department**

**Palestine Technical University - Kadoorie | Tulkarm, Palestine**

- Pro-actively implementing all curriculum areas and organise classroom and learning resources
- Tasked with the implementation and fast transition of traditional modules to online format due to COVID-19 pandemic, including lesson planning, developing alternative teaching material, and creating and designing homework and assessments
- Planning lab needs and continuously improving the experimental and computational facilities
- Tasked with managing, writing and submitting an Erasmus+ project application. The project is submitted in response to ERASMUS-EDU-2023-CBHE call
- Teaching a minimum of 4 subjects a semester such as: "Automotive Systems", "Automotive Systems Lab", "Vehicle Dynamics and Vibration", "Mechanical Vibrations", "Computational Fluid Dynamics", and "Automotive Control and Measurements"
- Updated the Curriculum of Automotive Engineering programs taught at PTUK (Diploma and B.Sc.)
- The new curriculums focus on Electric and Hybrid Electric Vehicles
- Member of Cooperative Education Committee at PTUK
- Established 4 labs in the Automotive Engineering Department
- Played a key role in establishing sustainable relationships with official automobile dealerships in Palestine

**July 2020 - Current**

**Assistant Professor**

**Palestine Technical University - Kadoorie | Tulkarm, Palestine**

- Appointed right after the PhD to teach in the Mechanical Engineering Department

**January 2018 - May 2020**

**Tutor**

**Northumbria University | Newcastle, Tyne, United Kingdom**

- During my Ph.D study, I taught Mechanical and Structural Systems II (Dynamics) and Engineering Analytics for 2nd year engineering students
- Successfully held Maths clinics to support BSc, BEng, MEng and MSc students

**October 2017 - September 2020**

**PhD Researcher**

**Northumbria University | Newcastle, Tyne, United Kingdom**

- Developed a coupled nonlinear mathematical model that describes the heaving

and pitching motions of Ground Effect Vehicles GEVs (AKA: seaplanes, ekranoplanes) to improve stability and maneuverability

- Applied the Poincare Lindstedt perturbation method to obtain analytical solution to the coupled nonlinear mathematical model
- Conducted CFD simulations to predict the structural response of GEVs

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## EDUCATION

September 2020

Ph.D. - Mechanical Engineering  
Northumbria University, Newcastle upon Tyne,  
United Kingdom

October 2015

M.Sc. - Automotive Engineering  
University of London, London, United Kingdom

December 2013

B.Sc. - Mechanical Engineering  
Najah National University, Nablus, Palestine

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## 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.
  - **J. Masri**, M. Amer and S. Salman, M. Ismail, M. Elsis, "A Survey of Modern Vehicle Noise, Vibration, and Harshness: A state-of-the-art". Manuscript submitted for publication.
  - **J. Masri**, M. Ismail, "Numerical investigation of aerodynamic characteristics of tandem airfoil system in ground effect flowing past a heated cylinder". Manuscript in preparation.
  - M. Ismail, A. Alkhazaleh, A. Y. Sirhan, M. Ali, A. M. Ali, **J. Masri**, "Novel Nano-Composite Phase Change Material with Silica Fumed for Construction Applications". Manuscript submitted for publication.
  - M. Amer, **J. Masri**, "Electric vehicle battery technologies and charging standards: an overview of challenges and future directions". Manuscript submitted for publication.
  - **J. Masri**, L. Dala and B. Huard, "Analytical porpoising prediction of seaplanes in the presence of dominant hydrostatic force". Manuscript in preparation.
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## AWARDS

- ✓ Northumbria University Faculty Funded Researcher Development Framework (RDF): Academic excellence fully funded PhD studentship worth almost £85000
  - ✓ Palestine Technical University – Kadoorie Distinguished Research Award for the paper published in the Journal of Thermal Science and Engineering Progress (Q1 top 10%)
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## REFERENCES

References available upon request