

# Dr Jamil Renno

CEng FIMechE FHEA

College of Engineering  
Qatar University  
Doha, Qatar

+974 4403 4326

✉ [jamil.renno@qu.edu.qa](mailto:jamil.renno@qu.edu.qa)

in [jamil-renno](#)

[Personal Web Page](#)



## Scholarly Profile

Google [Google Scholar](#)  
Orcid ID [0000-0002-1081-9912](#)  
Scopus ID [16417703500](#)

## Education

- 2008 **PhD Mechanical Engineering – 3.97/4.00**, *Virginia Tech, USA*  
PhD Advisor: Professor Daniel J Inman.  
Dissertation: Dynamics and Control of Membrane Mirrors for Adaptive Optic Applications.
- 2005 **MS Mechanical Engineering – 3.96/4.00**, *University of Nevada, Las Vegas, USA*  
MS Advisor: Professor Georg F Mauer.  
Thesis: Virtual Design and Modelling of Various Manufacturing Processes for Remote Fabrication of Transmuter Fuel.
- 2003 **BS Mechanical Engineering – 3.75/4.00**, *University of Nevada, Las Vegas, USA*

## Professional Appointments

- 2023- **Mechanical Engineering Undergraduate Program Coordinator**, *Department of Mechanical & Industrial Engineering, Qatar University, Doha – Qatar*
- 2020- **Associate Professor**, *Department of Mechanical & Industrial Engineering, Qatar University, Doha – Qatar*
- 2017-2020 **Assistant Professor**, *Department of Mechanical & Industrial Engineering, Qatar University, Doha – Qatar*
- 2016-2017 **Technical & Business Development Lead**, *Integrity Engineering, Doosan Babcock, Renfrew – United Kingdom*
- 2015-2016 **Technical Specialist Noise and Vibration**, *Plant Integrity, Asset Management, Doosan Babcock, Renfrew – United Kingdom*
- 2014-2015 **Senior Engineer Noise and Vibration**, *Plant Integrity, Asset Management, Doosan Babcock, Renfrew – United Kingdom*
- 2012-2014 **Lecturer in Structural Dynamics**, *Institute of Sound and Vibration Research, University of Southampton, Southampton – United Kingdom*
- 2009-2011 **Research Fellow in Structural Dynamics**, *Institute of Sound and Vibration Research, University of Southampton, Southampton – United Kingdom*

## Completed Industrial Projects

- 2021 Delta Corporation/Qatar Gas (Doha, Qatar) – Linear/Nonlinear Finite Element Analysis of 18 inch Threaded Pin/Box Connection

- 2020 Delta Corporation/Qatar Gas (Doha, Qatar) – Static and Dynamic Finite Element Analysis of API 6A Tree Connection During Acid Flowback  
Delta Corporation/Qatar Gas (Doha, Qatar) – Static and Dynamic Finite Element Analysis of API 6A Tree Connection During Acid Well Stimulation
- 2019 Doosan Babcock/Worly Parsons/CNOOC (Glasgow, United Kingdom) – Finite Element Analysis of Buzzard Water Injection Dampers  
Doosan Babcock/Viridor (Glasgow, United Kingdom) – Modal Analysis of the Centrifuge Skid at the Glasgow Recycling and Renewable Energy Centre.
- 2017 Karachaganak Petroleum Operating (Kazakhstan) – Vibration Survey of Train D and High Flow Trial of Unit 2  
Statoil Petroleum AS (Norway) – Oseberg C Platform: Vibration Investigation of Discharge Pipework of Gas Injection Compression Trains  
Maersk Oil UK – Study of Flow-Induced Vibration and Peer-Review
- 2016 Statoil Petroleum AS (Norway) – Statfjord C Platform: Gas Injection Compressor Balancing Line Vibration Investigation  
Statoil Petroleum AS (Norway) – Åsgard B Platform: High Flow Trial in the Midgard Separators and Gas Heaters  
Abu Dhabi Marine Operating Company (United Arab Emirates) – Das Island: Vibration Survey of Hydrocarbon Pipework on Das Island  
Repsol Sinopec Resources UK – Clyde Platform: Investigation of the Vibration of Compressor/Cooler Pipework
- 2015 Maersk Oil UK – Culzean Wellhead Platform: Vibration Assessment of Production Flowlines  
Maersk Oil UK – Culzean Wellhead Platform: Vibration Assessment of Small-Bore Connections  
Maersk Oil UK – Culzean Wellhead Platform: Screening for Flow-Induced Pulsations and Acoustic-Induced Vibrations  
Wood Group PSN/ TOTAL E&P (UK) – Dunbar Platform: Fatigue Assessment of the New Multiphase Metering Loop  
Oceaneering/Teekay Petrojal (UK) – Voyageur Spirit FPSO: Vibration Survey of Hydrocarbon Pipewor.
- 2014 Nexen/CNOOC (UK) – Golden Eagle Platform: Noise and Vibration Investigation of Cooling Water Line  
Subsea 7/TOTAL E&P (UK) – Modal Testing & Analysis of the Pipework on the Mariner Tie-in Subsea Template

## Research Funding

- 2022-2024 **Qatar Rail**, *Prediction and Attenuation of Ground-borne noise and Vibration in Buildings*, Principal Investigator, QAR 700,000  
Administered by Qatar University – Grant Number: QUEX-QatarRail-22/23-4
- 2021-2023 **Qatar Rail**, *Control of Ground-Borne Noise and Vibration from Doha Metro*, Principal Investigator, QAR 700,000  
Administered by Qatar University – Grant Number: QUEX-CENG-QR-21/22-1

- 2019-2021 **Qatar University – International Research Collaboration Co-Fund**, *A Hybrid Nonlinear Vibration Energy Harvester for Remote Sensing Applications*, Principal Investigator, USD 128,750  
Administered by Qatar University – Grant Number: IRCC-2020-017
- 2019-2020 **Qatar University – Internal Grant**, *Wave Modelling of Straight and Helical Pipes*, Lead Principal Investigator, QAR 270,000  
Administered by Qatar University – Grant Number: QUCG-CENG-19/20-6
- 2019-2021 **Shell Pearl Qatar**, *Vibration Investigation of Steam Inlet Pipework – Measurement and Modelling*, Lead Principal Investigator, USD 24,792.00  
Administered by Qatar University – Grant Number: QUEx-CENG-SHELL-19/20
- 2019-2021 **Qatar National Research Fund – National Priorities Research Programme**, *Towards Minimizing Hydrocarbon Leaks due to Fatigue Failures in Process Pipework – Developing Pipework Vibration Acceptance Criteria*, Lead Principal Investigator, USD 599,828  
Administered by Qatar University – Grant Number: NPRP11S-1220-170112
- 2018 **Qatar University – Internal Grant**, *Design, Building & Testing Semi-Anechoic Chamber*, Lead Principal Investigator, QAR 10,000  
Administered by Qatar University – Project QUST-2-CENG-2018-6
- 2014-2015 **The Royal Society – Newton Fund**, *Propagation of Waves in Waveguides with Spatially Correlated Uncertainty*, GBP 12,000.00  
Administered by the University of Southampton – Grant Number: IE140616
- 2013-2014 **The Royal Society – International Exchanges Scheme**, *Modelling the Dynamics of Structures with Uncertain Attachments*, GBP 12,000.00  
Administered by the University of Southampton – Grant Number: IE130588  
Industrial Collaborator: Jaguar Land Rover Ltd.
- 2013-2017 **UK EPSRC – Fellowships**, *Mid- and High-Frequency Vibro-acoustics of Built-up Structures – A Wave Approach*, GBP 616,526  
Administered by the University of Southampton – Grant Number: EP/K037161/1  
Industrial Collaborators: Airbus Group Limited, Bombardier & Lloyd's Register
- 2013-2016 **European Commission – Marie Skłodowska-Curie Actions**, *MHiVEC: Mid-High Frequency Modelling of Vehicle Noise and Vibration*, EUR 328,715.20  
Administered by the University of Southampton – Project Number: 612237  
Industrial Collaborator: inuTech GmbH, CDH AG & Jaguar Land Rover Ltd
- 2012 **University of Southampton – Internationalisation Fund**, *Wave Models for Composite Materials and Constructions*, GBP 4,500.00  
Administered by the University of Southampton – Internal Funding

## Awards

- 2015 Excellent Paper Award at the Doosan Technical Forum – only 22 papers were selected to receive this award out of 481 submissions.
- 2014 Excellence in Teaching Award: Outstanding Lecturer, University of Southampton.
- 2011 Staff Achievement Award, University of Southampton.
- 2005 Teaching Assistantship, Virginia Polytechnic Institute and State University.
- 2005 Pratt Fellowship, Virginia Polytechnic Institute and State University.
- 2005 Best Presentation at ANS Student Conference, Columbus, Ohio.
- 2004 Best Presentation at ANS Student Conference, Madison, Wisconsin.

## Research Visits

### Academic Visits

- 2014 **University of Bergen**, *Department of Physics and Technology*, Norway
- 2012 **University of Auckland**, *Department of Mechanical Engineering*, New Zealand

### Industrial Secondments

- 2013 **Marie Skłodowska-Curie Experienced Researcher**, *inuTech GmbH*, Nürnberg, Germany

## Teaching Experience

### Qatar University – Qatar

- GENG 111 **Engineering Graphics**, *Instructor*, College Requirement  
Summer 2023
- MECH 221 **Statics**, *Instructor*, Undergraduate Mechanical Engineering  
Fall 2017, Spring 2019, Spring 2023
- MECH 222 **Dynamics**, *Instructor*, Undergraduate Mechanical Engineering  
Spring 2018
- MECH 230 **Manufacturing Processes**, *Instructor*, Undergraduate Mechanical and Undergraduate Industrial & Systems Engineering  
Every semester since Fall 2017
- GENG 300 **Numerical Methods**, *Instructor*, College Requirement  
Summer 2018, Spring 2019, Summer 2019, Fall 2020, Summer 2021, Fall 2021, Fall 2022, Summer 2023
- GENG 360 **Engineer Economy**, *Instructor*, College Requirement  
Summer 2022
- MECH 600 **Finite Element Analysis**, *Instructor*, Graduate Mechanical Engineering  
Spring 2019, Spring 2020, Fall 2020, Fall 2021, Fall 2022

### University of Southampton – UK

- FEEG 1002 **Dynamics**, *Instructor*, Undergraduate Mechanical, Acoustical, Aerospace Engineering & Ship Science  
Fall 2013, Fall 2014
- ISVR 6043 **Structural Vibrations**, *Instructor & Coordinator*, Sound and Vibration Studies  
Fall 2012, Fall 2013, Fall 2014

### University of Auckland – New Zealand

- 2012 **Dynamics, Vibrations and Spectral Analysis**, *Guest Instructor*, Undergraduate Mechanical Engineering

### Virginia Tech – USA

- 2008 **System Dynamics**, *Instructor*, Undergraduate Mechanical Engineering  
Spring 2008
- 2005 **Mechanical Design Lab**, *Lab Instructor*, Undergraduate Mechanical Engineering  
Fall 2005

### University of Nevada, Las Vegas – USA

- 2005 **Introduction to Engineering**, *Lab Instructor*, Undergraduate (General) Engineering  
Spring 2005

## Supervision

### Research Fellows

- 2014-2015 **Dr Giannoula Mitrou**, University of Southampton  
Marie Curie Research Fellow.
- 2014 **Dr Niels Søndergaard**, University of Southampton  
Seconded from inuTech GmbH for eight months as a Marie Curie Experienced Researcher.
- 2014 **Dr Gang Xie**, University of Southampton  
Seconded from CDH AG for two months as a Marie Curie Experienced Researcher.

### PhD Students

- 2013-2016 **Andrea Ricci**, Faculty of Engineering & the Environment, University of Southampton  
Thesis: Reflection of waves in cylinders using the wave and finite element method.
- 2011 **Thiago A. Fiorentin**, 2<sup>nd</sup> year PhD student – Federal University of Santa Catarina, Brazil  
Project: Mobility approach for modelling vibration isolators in aircrafts.

### MSc Students

- 2021-2023 **Abdullah Salameh**, Department of Mechanical and Industrial Engineering, Qatar University  
Thesis: Investigating Fatigue Life in Bolted Flange Connection in Wind Turbine Towers
- 2019-2021 **Omar Shadi**, Department of Mechanical and Industrial Engineering, Qatar University  
Thesis: Investigation of Finite Element Models of Welds in Small-Bore Connections in Process Pipework
- 2019-2020 **Mehdi Khammasi**, Department of Mechanical and Industrial Engineering, Qatar University  
Thesis: Investigation of the Vibration Acceptance Criteria of Small-Bore Connections in Process Pipework
- 2019-2020 **Stephen D. Trent**, Department of Mechanical and Industrial Engineering, Qatar University  
Thesis: Deep Learning Applications for Enhanced Finite Element Predictions
- 2014 **Mohammed h. Husein**, Faculty of Engineering & the Environment, University of Southampton  
Thesis: Using a T-junction as a vibration absorber in cantilevered beams.
- 2012 **Antreas Georgiou**, Faculty of Engineering & the Environment, University of Southampton  
Thesis: Wave modelling of power harvesting from piezoelectric material.
- 2010 **Amélie Lefebvre**, 2<sup>nd</sup> year MSc student – ENSTA ParisTech, École Nationale Supérieure de Technique Avancée, France  
Project: Effect of bundles of cables on the vibration of a free-free beam.

## Service

### Journal Editorship

- 2021- Associate Editor of the [Journal of Vibration Engineering & Technologies](#)

### Journal Referee

Journal of Vibration and Control

Journal of Vibration Engineering & Technologies  
Journal of Sound and Vibration  
ASME Journal of Vibration and Acoustics  
Shock and Vibration  
Mechanical Systems and Signal Processing  
Wave Motion  
Journal of Intelligent Material Systems and Structures  
Computer Methods in Applied Mechanics and Engineering  
International Journal of Applied Mechanics  
Archives of Applied Mechanics  
Finite Elements in Analysis & Design

### Professional Membership

- 2016- Fellow of the Institution of Mechanical Engineers (FIMechE).
- 2014- Fellow of the UK Higher Education Academy (FHEA).
- 2015-2017 Member of British Standard Institute, Committee WEE/37/-/9 which is responsible for the revision and amendment of BS 7608 Code of Practice for Fatigue Design and Assessment of Steel.
- 2015-2018 Member of the Dynamics and Testing Technical Working Group of the National Agency for Finite Element Methods and Standards (NAFEMS).

### PhD Thesis External Examiner

- 2019 **Enriched finite elements for the solution of hyperbolic PDEs**, *Mayank Drolia*, Doctor of Philosophy, Institute for Infrastructure and Environment, School of Energy, Geoscience, Infrastructure and Society, Heriot-Watt University, United Kingdom
- 2012 **Sound transmission properties of honeycomb panels and double-walled structures**, *Sathish Kumar*, Doctoral Thesis in Technical Acoustics, Department of Aeronautical and Vehicle Engineering, KTH, Sweden

### Conference Organisation

- 2023 **International Conference on Vibration Problems**, *ICOVP 2023*, Conference Chair, Doha, Qatar – 05-08 February 2023
- 2015- **Noise and Vibration: Emerging Methods**, *NOVEM*, Member of the Organising Committee

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## Professional Development

### Certificates

- 2014-2018 Basic Offshore Safety Induction and Emergency Training (BOSIET) – Petrofac Training Services
- 2014-2018 Minimum Industry Safety Training (MIST) – Petrofac Training Services
- 2014 Postgraduate Certificate in Academic Practice – University of Southampton
- 2003 Nevada Engineer Intern, Registration # 0T4476

### Development Activities

#### At Qatar University

- 2023 Digital Tools for Formative Assessment  
Using concept maps for the assessment of student learning



- 2022 Mechanism to infuse digitally enriched theme in the classroom  
How to make qualitative shift in your lessons using the Genially platform
- 2021 Implementing Learner Centric Approach at Higher Education  
Peer Observation: A constructive development Opportunity
- 2020 Developing "Interactive Lectures" to Better Engage Your Students
- 2019 Online Course Design – Motivating Students
- 2018 What is storyboarding and how can it help you flip your classes
- 2017 How can I teach routine courses with energy and enthusiasm?  
Applying Cognitive Science to Teaching Online

#### At University of Southampton

- 2014 Academic Appraisal Skills  
Essential Mentoring Skills  
Supporting Student Centred, Independent Learning
- 2013 Encouraging Engagement in Lectures  
Motivating Students and Keeping them Motivated  
Developing Effective Assessment  
Project Management for Researchers and Academics
- 2012 Introduction to External Examining  
The Supervision of Masters Students  
Research Degree Supervision
- 2011 EPSRC Study Day – Mock Prioritisation Panel

### Invited Talks

- 2023 **Overview of the Wave and Finite Element Method for Modelling Vibrations**, *ICMSAO: The Ninth International Conference on Modeling, Simulation and Applied Optimization*, Marrakesh, Morocco
- 2012 **Predictions of wave characteristics using a finite element method**, *InnoWave: Innovations in Wave Modelling*, University of Nottingham, Nottingham
- 2012 **The wave and finite element method**, *Short Course on Mid-Frequency Methods in Vibration and Acoustics*, Chillworth Manor, Southampton
- 2011 **Application of the wave and finite element method to rail structures**, *Mid-Frequency Analysis of Noise and Vibration*, St-Anne's College, Oxford

### Languages

|         |                  |                                       |
|---------|------------------|---------------------------------------|
| Arabic  | High proficiency | <i>Native tongue.</i>                 |
| English | High proficiency | <i>Tertiary education in the USA.</i> |
| French  | Basic competence | <i>High school level.</i>             |

### Patents

- 2023 A.G.A. Muthalif, M. Hafizh, J. Renno and M.R. Paurobally. "Self-Adjusting Airfoil." US Patent # [US-20230422622-A1](#).

### Publications

## Journal Articles [43 Articles]

- M.S. Nashed, J. Renno, M.S. Mohamed, and R.L. Reuben. Gas turbine failure classification using acoustic emissions with wavelet analysis and deep learning. *Expert Systems with Applications*, 232, 2023. doi:10.1016/j.eswa.2023.120684.
- Y. Badri, A. Alhams, S. Sassi, M. Hussein, and J. Renno. Enhancing the damping effect of mrf damper using an external magnetic excitation system. *Materials Research Express*, 10(9), 2023. doi:10.1088/2053-1591/acfae5.
- S. Trent, J. Renno, S. Sassi, and M.S. Mohamed. Using image processing techniques in computational mechanics. *Computers and Mathematics with Applications*, 136:1–24, 2023. doi:10.1016/j.camwa.2022.11.024.
- R.F. Ghachi, A.S. Mohamed, J. Renno, and W. Alnahhal. Application of metastructures for targeted low-frequency vibration suppression in plates. *Journal of Vibration Engineering and Technologies*, 11(3):887–897, 2023. doi:10.1007/s42417-022-00614-9.
- M.S. Nashed, J. Renno, and M.S. Mohamed. Nonlinear analysis of shell structures using image processing and machine learning. *Advances in Engineering Software*, 176, 2023. doi:10.1016/j.advengsoft.2022.103392.
- M. Hafizh, A.G.A. Muthalif, J. Renno, M.R. Paurobally, and M.S. Mohamed Ali. A vortex-induced vibration-based self-tunable airfoil-shaped piezoelectric energy harvester for remote sensing applications in water. *Ocean Engineering*, 269, 2023. doi:10.1016/j.oceaneng.2022.113467.
- M.F.M. Hussein, J.M. Renno, and A.G.A. Muthalif. Energy harvesting from railway slab-tracks with continuous slabs. *JVC/Journal of Vibration and Control*, 29(3-4):882–901, 2023. doi:10.1177/10775463211054259.
- M. Hafizh, A.G.A. Muthalif, J. Renno, M.R. Paurobally, I. Bahadur, H. Ouakad, and M. Sultan Mohamed Ali. Vortex induced vibration energy harvesting using magnetically coupled broadband circular-array piezoelectric patch: Modelling, parametric study, and experiments. *Energy Conversion and Management*, 276, 2023. doi:10.1016/j.enconman.2022.116559.
- A. Alsharo, K. Douier, M.F.M. Hussein, and J. Renno. Investigating the effect of using softer rail-pads on ground-borne vibration from underground railways. *International Journal of Rail Transportation*, 2023. doi:10.1080/23248378.2023.2256735.
- M.S. Nashed, J. Renno, and M.S. Mohamed. Fault classification using convolutional neural networks and color channels for time-frequency analysis of acoustic emissions. *JVC/Journal of Vibration and Control*, 2023. doi:10.1177/10775463231177101.
- Y. Badri, S. Sassi, M. Hussein, and J. Renno. Experimental and numerical investigation of damping in a hybrid automotive damper combining viscous and multiple-impact mechanisms. *JVC/Journal of Vibration and Control*, 28(23-24):3676–3687, 2022. doi:10.1177/10775463211038125.
- M.S. Nashed, J. Renno, and M.S. Mohamed. Modelling fatigue uncertainty by means of nonconstant variance neural networks. *Fatigue and Fracture of Engineering Materials and Structures*, 45(9):2468–2480, 2022. doi:10.1111/ffe.13759.
- M.S. Nashed, M.S. Mohamed, O.T. Shady, and J. Renno. Using probabilistic neural networks for modeling metal fatigue and random vibration in process pipework. *Fatigue and Fracture of Engineering Materials and Structures*, 45(4):1227–1242, 2022. doi:10.1111/ffe.13660.
- A. G.A Muthalif, M. Hafizh, J. Renno, and M.R. Paurobally. A hybrid piezoelectric-electromagnetic energy harvester from vortex-induced vibrations in fluid-flow; the influence of boundary condition in tuning the harvester. *Energy Conversion and Management*, 256, 2022. doi:10.1016/j.enconman.2022.115371.
- J. Renno, S. Sassi, and W.I. Alnahhal. Calculating the response of waveguides to base excitation using the wave and finite element method. *JVC/Journal of Vibration and Control*, 28(5-6):652–664, 2022. doi:10.1177/1077546320981315.



- T. Syam, Y. Badri, O. Abdallah, S. Sassi, J. Renno, and O.D. Mohammed. Towards a simplified technique for crack recognition in gearing systems. *Comptes Rendus-Mécanique*, 350:477–494, 2022. doi:10.5802/crmeca.128.
- A.G.A. Muthalif, A. Ali, J. Renno, A.N. Wahid, K.A.M. Nor, and N.H.D. Nordin. Geometrical investigation of piezoelectric patches for broadband energy harvesting in non-deterministic composite plates. *Materials*, 14(23), 2021. doi:10.3390/ma14237370.
- A.G.A. Muthalif, M. Hafizh, J. Renno, and M.R. Paurobally. An enhanced hybrid piezoelectric–electromagnetic energy harvester using dual-mass system for vortex-induced vibrations. *JVC/Journal of Vibration and Control*, 27(23-24):2848–2861, 2021. doi:10.1177/10775463211041875.
- S. Sassi, J. Renno, H. Zhou, and A. Baz. Experimental investigation of the vibration control of nonrotating periodic drill strings. *Journal of Vibration and Acoustics*, 143(6), 2021. doi:10.1115/1.4049942.
- Y. Badri, T. Syam, S. Sassi, M. Hussein, J. Renno, and S. Ghani. Investigating the characteristics of a magnetorheological fluid damper through CFD modeling. *Materials Research Express*, 8(5), 2021. doi:10.1088/2053-1591/abfcf6.
- M. Hafizh, A.G.A. Muthalif, J. Renno, M.R. Paurobally, M.A. Arab, I. Bahadur, and H. Ouakad. A hybrid piezoelectric-electromagnetic nonlinear vibration energy harvester excited by fluid flow. *Comptes Rendus-Mécanique*, 349(1):65–81, 2021. doi:10.5802/CRMECA.74.
- A. Ali, A.G.A. Muthalif, and J. Renno. Broadband vibration energy harvesting from a non-deterministic system: Performance of different piezoelectric patch shapes. *Materials Research Express*, 8(2), 2021. doi:10.1088/2053-1591/abe063.
- Y. Badri, A. Shamseldin, J. Renno, and S. Sassi. Thermal structural optimization of ic engine piston. *International Journal of Mechanical Engineering and Robotics Research*, 10(1):12–16, 2021. doi:10.18178/IJMERR.10.1.12-16.
- R.F. Ghachi, W.I. Alnahhal, O. Abdeljaber, J. Renno, A.B.M. Tahidul Haque, J. Shim, and A. Aref. Optimization of viscoelastic metamaterials for vibration attenuation properties. *International Journal of Applied Mechanics*, 12(10), 2020. doi:10.1142/S1758825120501161.
- M. Desouki, S. Sassi, J. Renno, and S.A. Gowid. Dynamic response of a rotating assembly under the coupled effects of misalignment and imbalance. *Shock and Vibration*, 2020, 2020. doi:10.1155/2020/8819676.
- J. Renno, S. Sassi, and S. Gowid. Wave propagation in double helical rods. *Wave Motion*, 93, 2020. doi:10.1016/j.wavemoti.2019.102446.
- J. Renno, N. Søndergaard, S. Sassi, and M.R. Paurobally. Wave scattering and power flow in straight-helical-straight waveguide structure. *International Journal of Applied Mechanics*, 11(8), 2019. doi:10.1142/S1758825119500753.
- J.M. Renno and B.R. Mace. Calculating the forced response of cylinders and cylindrical shells using the wave and finite element method. *Journal of Sound and Vibration*, 333(21):5340–5355, 2014. doi:10.1016/j.jsv.2014.04.042.
- J.M. Renno and B.R. Mace. Vibration modelling of structural networks using a hybrid finite element/wave and finite element approach. *Wave Motion*, 51(4):566–580, 2014. doi:10.1016/j.wavemoti.2013.09.001.
- J.M. Renno and B.R. Mace. Calculation of reflection and transmission coefficients of joints using a hybrid finite element/wave and finite element approach. *Journal of Sound and Vibration*, 332(9):2149–2164, 2013. doi:10.1016/j.jsv.2012.04.029.
- T.A. Fiorentin, N.S. Ferguson, J.M. Renno, and A. Lenzi. Structural response of an aircraft fuselage to hydraulic system - a wave and mobility approach. *Noise Control Engineering Journal*, 61(1):87–99, 2013. doi:10.3397/1.3702009.

J.M. Renno and B.R. Mace. Vibration modelling of helical springs with non-uniform ends. *Journal of Sound and Vibration*, 331(12):2809–2823, 2012. doi:10.1016/j.jsv.2012.01.036.

J.M. Renno and B.R. MacE. Calculating the forced response of two-dimensional homogeneous media using the wave and finite element method. *Journal of Sound and Vibration*, 330(24):5913–5927, 2011. doi:10.1016/j.jsv.2011.06.011.

J.M. Renno and B.R. MacE. On the forced response of waveguides using the wave and finite element method. *Journal of Sound and Vibration*, 329(26):5474–5488, 2010. doi:10.1016/j.jsv.2010.07.009.

J.M. Renno, D.J. Inman, and K.R. Chevva. Nonlinear control of a membrane mirror strip actuated axially and in bending. *AIAA Journal*, 47(3):484–493, 2009. doi:10.2514/1.31166.

A. Erturk, J.M. Renno, and D.J. Inman. Modeling of piezoelectric energy harvesting from an I-shaped beam-mass structure with an application to uavs. *Journal of Intelligent Material Systems and Structures*, 20(5):529–544, 2009. doi:10.1177/1045389X08098096.

J.M. Renno and D.J. Inman. Modeling and control of a membrane strip using a single piezoelectric bimorph. *JVC/Journal of Vibration and Control*, 15(3):391–414, 2009. doi:10.1177/1077546308088563.

M.B. Trabia, J.M. Renno, and K.A.F. Moustafa. Generalized design of an anti-swing fuzzy logic controller for an overhead crane with hoist. *JVC/Journal of Vibration and Control*, 14(3):319–346, 2008. doi:10.1177/1077546307080025.

J.M. Renno. Inverse dynamics based tuning of a fuzzy logic controller for a single-link flexible manipulator. *JVC/Journal of Vibration and Control*, 13(12):1741–1759, 2007. doi:10.1177/1077546307076282.

J.M. Renno and D.J. Inman. Experimentally validated model of a membrane strip with multiple actuators. *Journal of Spacecraft and Rockets*, 44(5):1140–1152, 2007. doi:10.2514/1.27843.

J.M. Renno and D.J. Inman. An experimentally verified model of a membrane mirror strip actuated using piezoelectric bimorph. *Journal of Vibration and Acoustics*, 129(5):631–640, 2007. doi:10.1115/1.2756843.

## Indexed Conference Papers

A.S. Mohamed, O.T.S.M. Shady, J. Renno, S. Sassi, and M.R. Paurobally. Using one dimensional convolutional neural networks for classifying the vibration of process pipework. volume 2803, 2023. doi:10.1063/5.0144670.

K. Douier, M.F.M. Hussein, and J. Renno. Modal characterization and road roughness reconstruction using dynamic vehicle acceleration and ANNs. 2023.

A. Alsharo, K. Douier, M. Hussein, and J. Renno. A measurement campaign to investigate the effect of using soft railpads on ground-borne vibrations from underground railways. 2023.

K. Douier, M.F.M. Hussein, and J. Renno. Reconstruction of road defects from dynamic vehicle accelerations by using the artificial neural networks. *Mechanisms and Machine Science*, 125 MMS:622–629, 2023. doi:10.1007/978-3-031-15758-5\_64.

T. Syam, Y. Badri, S. Sassi, and J. Renno. Modal analysis of spur gears for varied teeth root cracks characteristics: finite element analysis (FEA) simulations. volume 45, pages 33–40, 2022. doi:10.21595/vp.2022.22936.

K. Douier, M.F.M. Hussein, and J. Renno. Predicting road roughness profile using dynamic vehicle accelerations and artificial neural networks. 2022.

M. Hafizh, A.G.A. Muthalif, J. Renno, and M.R. Paurobally. Airfoil-based self-adjustable piezoelectric energy harvester in fluid-flow applications for performance optimization. 2022.

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