Guobiao HU, PhD

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Google Scholar Citations 1012; h-index 18; i10-index 26
Updated by 28 March 2022

Appointments

2020.03 – Present	**Postdoctoral Research Fellow**	Nanyang Technological University (NTU), Singapore
2019.08 – 2019.12	**Research Associate**	University of Auckland (UoA), New Zealand

Education

2015.08 – 2019.07	**PhD Mechanical Engineering**	University of Auckland (UoA), New Zealand
2012.09 – 2015.06	**MEng Mechanical Engineering**	Southwest Jiaotong University (SWJTU), P.R. China
2010.09 – 2012.06	**Diplôme d'Ingénieur**	École Centrale de Paris (ECP), France
2008.09 – 2012.06	**BEng Mechanical Engineering**	Southwest Jiaotong University (SWJTU), P.R. China

Research Interests

Piezoelectric Energy Harvesting
Meta-structures and Acoustic Metamaterials
Vibration and Dynamics
Optimization
Neural Network

Publications (in chronological order)

Journal Articles: (* denotes the corresponding author, & denotes one of the corresponding authors, # denotes co-first author)

J1. J. Wang, S. Gu, D. Yurchenko, **G. Hu***, R. Wei, 2022, "On the Investigation of Ash Deposition Effect on Flow-Induced Vibration Energy Harvesting", Mechanical Systems and Signal Processing. (Accepted) **IF: 6.823, JCR Ranking: Q1**

J2. X. Li, **G. Hu**, Z. Guo, J. Wang, Y. Yang, J. Liang, 2022, "Frequency Up-Conversion for Vibration Energy Harvesting: A Review", Symmetry-Basel, Vol.13, No.3, 631. **IF: 2.713, JCR Ranking: Q2**

J3. Z. Li, X. Peng, **G. Hu**, D. Zhang, Z. Xu, Y. Peng, S. Zhong, J. Luo, S. Xie, 2022, "Towards Real-Time Self-Powered Sensing with Ample Redundant Charges by a Piezostack-based Frequency-Converted Generator from Human Motions", Energy Conversion and Management. (Accepted) **IF: 9.709, JCR Ranking: Q1**

J4. **G. Hu**, C. Lan, L. Tang, J. Liang, L. Zhao, 2022, "Theoretical Study of a Two-Degree-of-Freedom Piezoelectric Energy Harvester under Concurrent Aeroelastic and Base Excitation", Journal of Intelligent Material Systems and Structures. (Online) **IF: 2.569, JCR Ranking: Q3**

J5. **G. Hu**, C. Lan, L. Tang, Y. Yang, 2022, "Dynamics and Power Limit Analysis of a Galloping Piezoelectric Energy Harvester Under Forced Excitation", Mechanical Systems and Signal Processing, Vol.168, 108724. **IF: 6.823, JCR Ranking: Q1**

J6. **G. Hu**, C. Lan, L. Tang, Y. Yang, 2022, "Deep-Subwavelength Interface States in Mechanical Systems". Mechanical Systems and Signal Processing, Vol. 169. 108598. **IF: 6.823, JCR Ranking: Q1**

J7. **G. Hu**, C. Zhao, Y. Yang, X. Li, J. Liang, 2022, "Triboelectric Energy Harvesting based on an Origami-Inspired Structure", Applied Energy, Vol. 306: 118037. **IF: 9.746, JCR Ranking: Q1**

J8. **G. Hu**, C. Lan, L. Tang, Y. Yang, 2022, "Local Resonator Stimulated Polarization Transition in Metamaterials and The Formation of Topological Interface States", Mechanical Systems and Signal Processing, Vol.165: 108388. **IF: 6.823, JCR Ranking: Q1**

J9. **G. Hu**, J. Liang, L. Tang, J. Wang, 2022, "Improved Theoretical Analysis and Design Guidelines of a Two-Degree-of-Freedom Galloping Piezoelectric Energy Harvester", Journal of Intelligent Material Systems and Structures. Vol.1, No.33 **IF: 2.569, JCR Ranking: Q3**

J10. Y. Jian, L. Tang[&], **G. Hu**[&], Z. Li, K. Aw, 2021, "Design of Graded Piezoelectric Metamaterial Beam with Spatial Variation of Electrodes", International Journal of Mechanical Sciences, Vol. 218, 107068. **IF: 5.329, JCR Ranking: Q1**

J11. J. Wang, D. Yurchenko, **G. Hu**[*], L. Zhao, L. Tang, Y. Yang, 2021, "Perspectives in Flow-Induced Vibration Energy Harvesting", Applied Physics Letters, Vol.119, 100502. **IF: 3.791, JCR Ranking: Q2, APL Featured Article**

J12. Y. Gao, **G. Hu**[&], B. Zhao, J. Liang[&], 2021, "Synchronized Switch Piezoelectric Energy Harvesting Using Rotating Magnetic Ball and Reed Switches", Smart Materials and Structures, Vol.30, No.10: 105023. **IF: 3.585, JCR Ranking: Q1**

J13. J. Wang, S. Sun, **G. Hu**[&], Y. Yang, L. Tang, P. Li[&], G. Zhang, 2021, "Exploring the Potential Benefits of Using Metasurface for Galloping Energy Harvesting", Energy Conversion and Management, Vol. 243, 114414. **IF: 9.709, JCR Ranking: Q1**

J14. C. Lan, **G. Hu**[*], L. Tang, Y. Yang, 2021, "Energy Localization and Topological Protection of a Locally Resonant Topological Metamaterial for Robust Vibration Energy Harvesting", Journal of Applied Physics, Vol.129, 184502. **IF: 2.546, JCR Ranking: Q2**

J15. J. Wang, S. Sun, L. Tang[&], **G. Hu**[&], J. Liang, 2021, "On the Use of Metasurface for Vortex-Induced Vibration Suppression or Energy Harvesting", Energy Conversion and Management, Vol.235, 113991. **IF: 9.709, JCR Ranking: Q1 [ESI highly cited paper, as of Jan, 2022, Web of Science]**

J16. **G. Hu**, L. Tang, J. Liang, C. Lan, R. Das, 2021 "Acoustic-Elastic Metamaterials and Phononic Crystals for Energy Harvesting: A Review", Smart Materials and Structures, Vol.30, 085025. **IF: 3.585, JCR Ranking: Q1**

J17. **G. Hu**, J. Wang, L. Tang, 2021, "A Comb-like Beam based Piezoelectric System for Galloping Energy Harvesting", Mechanical Systems and Signal Processing, Vol.29, No11. **IF: 6.823, JCR Ranking: Q1**

J18. C. Lan, Y. Liao, **G. Hu**, 2021, "A Unified Equivalent Circuit and Impedance Analysis Method for Galloping Piezoelectric Energy Harvesters", Mechanical Systems and Signal Processing, Vol.165, 108339. **IF: 6.823, JCR Ranking: Q1**

J19. Y. Jian, **G. Hu**, L. Tang, J. Xu, K. Aw, 2021, "A Generic Theoretical Approach for Estimating Band Gap Bounds of Metamaterial Beams", Journal of Applied Physics, Vol.130, 054501. **IF: 2.546, JCR Ranking: Q2**

J20. X. Li, H. Tang, **G. Hu**, B. Zhao, J. Liang, 2021, "ViPSN-E: A Transient-Motion-Powered Human Motion Detector", IEEE Internet of Things Journal. (Online first) **IF: 9.471, JCR Ranking: Q1**

J21. Z. Guo, **G. Hu**, V. Sorokin, L. Tang, X. Yang, 2021, "Low-Frequency Flexural Wave Attenuation in Metamaterial Sandwich Beam with Hourglass Lattice Truss Core", Wave Motion, Vol.104, 102750. **IF: 2.02, JCR Ranking: Q2**

J22. **G. Hu**, J. Liang, C. Lan, L. Tang, 2020, "A Twist Piezoelectric Beam for Multi-Directional Energy Harvesting", Smart Materials and Structures, Vol.28, No.4, 045018. **IF: 3.585, JCR Ranking: Q1**

J23. **G. Hu**, J. Wang, H. Qiao, L. Zhao, Z. Li, L. Tang, 2020, "An Experimental Study of a Two-degree-of-Freedom Galloping Energy Harvester", International Journal of Energy Research, Vol.45, No.2, 3365-3374. **IF: 5.164, JCR Ranking: Q1**

J24. **G. Hu**, A. Austin, V. Sorokin, L. Tang, 2020, "Metamaterial Beam with Graded Local Resonators for Broadband Vibration Suppression", Mechanical Systems and Signal Processing, Vol.146, 106982. **IF: 6.823, JCR Ranking: Q1 [ESI highly cited paper, as of Oct, 2021, Web of Science]**

J25. C. Lan[&], **G. Hu**[&], Y. Liao, W. Qin, 2020, "A Wind-Induced Negative Damping Method to Achieve High-Energy Orbits of a Nonlinear Vibration Energy Harvester", Smart Materials and Structures, Vol.30, 02LT02. **IF: 3.585, JCR Ranking: Q1**

J26. C. Lan, Z. Chen, **G. Hu**, Y. Liao, W. Qin, 2020, "Achieve Frequency-Self-Tracking Energy Harvesting Using a Passively Adaptive Cantilever Beam", Mechanical Systems and Signal Processing, Vol.156, 107672. **IF: 6.823, JCR Ranking: Q1**

J27. J. Xu, **G. Hu**, L. Tang, Y. Zhang, R. Yan, 2020, "Modeling and Analysis of Phononic Crystal with Coupled Lanes for Enhanced Elastic Wave Attenuation", Journal of Vibration and Acoustics - Transactions of ASME, Vol.143, No.2, 021011. **IF: 1.583, JCR Ranking: Q3**

J28. J. Wang, L. Tang, L. Zhao, **G. Hu**, R. Song, K. Xue, 2020, "Equivalent Circuit Modeling and Analysis of Vortex-Induced Vibration based Wind Energy Harvesting", International Journal of Energy Research, Vol.44, No.6, 4516-4528. **IF: 5.164, JCR Ranking: Q1 [ESI highly cited paper, as of Feb, 2021, Web of Science]**

J29. J. Wang, S. Gu, C. Zhang, **G. Hu**, G. Chen, K. Yang, H. Li, Y. Lai, G. Litak, D. Yurchenko, 2020, "Hybrid wind energy scavenging by coupling vortex-induced vibrations and galloping", Energy Conversion and Management, Vol.213, 112835. **IF: 9.709, JCR Ranking: Q1 [ESI highly cited paper, as of Oct, 2021, Web of Science]**

J30. K. Yang, K. Su, J. Wang, F. Wang, **G. Hu**, O. Gaidai, 2020, "Performance Evaluation of a Dual-Piezoelectric-Beam Vibration Energy Harvester with A Lever and Repulsive Magnets", Smart Materials and Structures, Vol.29, No.7, 075010. **IF: 3.585, JCR Ranking: Q1**

J31. M. Zhang[#], **G. Hu**[#], J. Wang, 2019, "Bluff Body with Built-in Piezoelectric Cantilever for Flow-Induced Energy Harvesting", International Journal of Energy Research, Vol.44, No.5, 3762-3777. **IF: 5.164, JCR Ranking: Q1**

J32. J. Wang[#], **G. Hu**[#], L. Tang, L. Zhao, 2019, "A Cross-coupled Dual-beam for Multi-Directional Energy Harvesting from Vortex Induced Vibrations", Smart Materials and Structures, Vol.28, No.12, 12LT02. **IF: 3.585, JCR Ranking: Q1**

J33. **G. Hu**, J. Xu, L. Tang, C. Lan, R. Das, 2019, "Tunable Metamaterial Beam by Using Negative Capacitor for Local Resonators Coupling", Journal of Intelligent Material Systems and Structures, Vol.31, No.3, 389-407. **IF: 2.569, JCR Ranking: Q3**

J34. **G. Hu**, L. Tang, X. Cui, 2019, "On the Modelling of Membrane-coupled Helmholtz Resonator and its Application in the Design of Acoustic Metamaterial", Mechanical Systems and Signal Processing, Vol.132, 595–608. **IF: 6.823, JCR Ranking: Q1**

J35. **G. Hu**, L. Tang, J. Xu, C. Lan, R. Das, 2019, "Metamaterial with Local Resonators Coupled by Negative Stiffness Springs for Enhanced Vibration Suppression", Journal of Applied Mechanics - Transactions of ASME, Vol.86, No.8, 081009. **IF: 2.168, JCR Ranking: Q3**

J36. **G. Hu**, L. Tang, J. Liang, R. Das, 2019, "Modelling of a Cantilevered Energy Harvester with Partial Piezoelectric Coverage and Shunted to Practical Interface Circuits", Journal of Intelligent Material Systems and Structures, Vol.30, No.13, 1896–1912. **IF: 2.569, JCR Ranking: Q3**

J37. J. Jiang, **G. Hu**[&], X. Li, X. Xu, P. Zheng, J. Stringer[&], 2019, "Analysis and Prediction of Printable Bridge Length in Additive Manufacturing based on Back Propagation Neural Network", Virtual and Physical Prototyping, Vol.14, No.3, 253-266. **IF: 8.092, JCR Ranking: Q1**

J38. C. Lan, Y. Liao, **G. Hu**, L. Tang, 2019, "Equivalent Impedance and Power Analysis of Monostable Piezoelectric Energy Harvesters", Journal of Intelligent Material Systems and Structures, Vol.31, No.14, 1697-1715. **IF: 2.569, JCR Ranking: Q3**

J39. Z. Guo, **G. Hu**, V. Sorokin, Y. Yang, L. Tang, 2019, "Sound Transmission through Sandwich Plate with Hourglass Lattice Truss Core", Journal of Sandwich Structures and Materials, Vol.23, No.6, 1902-1928. **IF: 5.497, JCR Ranking: Q1**

J40. J. Jiang, J. Lou, **G. Hu**, 2019, "Effect of Support on Printed Properties in Fused Deposition Modelling Processes", Virtual and Physical Prototyping, Vol.14, No.4, 308-315. **IF: 8.092, JCR Ranking: Q1 [ESI highly cited paper, as of Sep, 2020, Web of Science]**

J41. C. Lan, L. Tang, **G. Hu**, W. Qin, 2019, "Dynamics and Performance of a Two-Degree-of-Freedom Galloping-based Piezoelectric Energy Harvester", Smart Materials and Structures, Vol.28, No.4, 045018. **IF: 3.585, JCR Ranking: Q1**

J42. **G. Hu**, L. Tang, and R. Das, 2018, "General Framework for Modeling Multifunctional Metamaterial Beam based on a Derived One-dimensional Piezoelectric Composite Finite Element", ASCE Journal of Aerospace Engineering, Vol.31, No.6, 04018088. **IF: 1.904, JCR Ranking: Q2**

J43. **G. Hu**, L. Tang, R. Das, 2018, "Internally Coupled Metamaterial Beam for Simultaneous Vibration Suppression and Low Frequency Energy Harvesting", Journal of Applied Physics, Vol.123, No.5, 055107. **IF: 2.546, JCR Ranking: Q2**

J44. **G. Hu**, L. Tang, R. Das, P. Marzocca, 2018, "A Two-Degree-of-Freedom Piezoelectric Energy Harvester with Stoppers for Achieving Enhanced Performance", International Journal of Mechanical Sciences, Vol.149, 500-507. **IF: 5.329, JCR Ranking: Q1**

J45. **G. Hu**, L. Tang, R. Das, S. Gao, H. Liu, 2017, "Acoustic Metamaterials with Coupled Local Resonators for Broadband Vibration Suppression", AIP Advances, Vol.7, No.2, 025211. **IF: 1.548, JCR Ranking: Q4**

J46. **G. Hu**, L. Tang, A. Banerjee, R. Das, 2017, "Meta-structure with Piezoelectric Element for Simultaneous Vibration Suppression and Energy Harvesting", Journal of Vibration and Acoustics – Transactions of ASME, Vol.139, No.1, 011012. **IF: 1.583, JCR Ranking: Q3**

Conference Papers:

C1. **G. Hu**, L. Tang, R. Das, 2016, "An Impact-Engaged Two-Degrees-of-Freedom Piezoelectric Energy Harvester for Wideband Operation", International Symposium on Plasticity and Impact Mechanics (IMPLAST 2016), New Delhi, India, 11-14 December.

C2. **G. Hu**, L. Tang, R. Das, 2017, "Metamaterial-Inspired Piezoelectric System with Dual Functionalities: Energy Harvesting and Vibration Suppression", SPIE Smart Structures/NDE, Vol. 101641, 101641X, Portland, OR, USA, 25-29 March.

C3. **G. Hu**, L. Tang, R. Das, K. Aw, 2018, "Internally Coupled Piezoelectric Metamaterial Beam with Multi-Functionalities", SPIE Smart Structures/NDE, Denver, CO, USA, 4-8 March.[†]

C4. C. Lan, L. Tang, **G. Hu**, W. Qin, 2018, "Dynamics of a Bistable Coupled Dual-Beam Energy Harvester and its Experimental Validation", SPIE Smart Structures/NDE, Denver, CO, USA, 4-8 March.

C5. **G. Hu**, L. Tang, R. Das, 2018, "Metamaterial Beam with Coupled Local Resonators for Enhancing Vibration Suppression and Energy Harvesting", IUTAM Symposium on Acoustic/elastic Metamaterials, Their Design and Applications, Beijing, China, 5-8 June.

[†] Best Student Paper Competition Finalist

C6. **G. Hu**, B. Zhao, L. Tang, J. Liang, R. Das, 2018, "Modeling of partially covered piezoelectric energy harvester connected to SEH interface circuit", International Conference on Noise and Vibration Engineering, Leuven, Belgium, 17-19 September.

C7. **G. Hu**, L. Tang, J. Xu, C. Lan, R. Das, 2019, "Vibration Suppression of Metamaterial with Local Resonators Coupled by Negative Stiffness Springs", SPIE Smart Structures/NDE, Denver, CO, USA, 3-7 March.

C8. **G. Hu**, L. Tang, Y. Yang, 2020, "Acoustic Metamaterial Containing an Array of Helmholtz Resonators Coupled with Mass-Loaded Membranes", SPIE Smart Structures/NDE, Anaheim, CA, USA, 26-30 April.

C9. **G. Hu**, L. Tang, J. Liang, R. Das, 2020, "A Tapered Beam Piezoelectric Energy Harvester with Extended Tip Mass and Shunted to P-SSHI Interface", SPIE Smart Structures/NDE, Anaheim, CA, USA, 26-30 April.

C10. C. Lan, Y. Liao, **G. Hu**, L. Tang, 2020, "Power and electromechanical coupling of nonlinear piezoelectric vibration energy harvesters", SPIE Smart Structures/NDE, Anaheim, CA, USA, 26-30 April.

C11. **G. Hu**, L. Tang, Y. Yang, 2020, "A Lumped Parameter Approach for Analysing a Metamaterial Beam based Piezoelectric Energy Harvester Around Fundamental Resonance", ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems (SMASIS), Irvine, CA, USA, 14-16 September.

C12. Y. Jian, **G. Hu**, L. Tang, K. Aw, 2020, "Band Gap Formation in Metamaterial Beam with Torsional Local Resonators for Vibration Suppression", ASME Conference on Smart Materials, Adaptive Structures and Intelligent Systems (SMASIS), Irvine, CA, USA, 14-16 September.

C13. Y. Jian, **G. Hu**, L. Tang, K. Aw, 2021, "Fast Estimation of Bandgaps of Lattice Metamaterial Systems", Acoustical Society of NZ conference, Auckland, New Zealand, 15-16, February.

C14. **G. Hu**, J. Wang, C. Lan, L. Tang, J. Liang, 2021, "Deep-Learning Assisted Finite Element Model of a Galloping Piezoelectric Energy Harvester", SPIE Smart Structures and Nondestructive Evaluation, Digital Forum, 7-10, March.

C15. C. Lan, **G. Hu**, L. Tang, 2021, "A Topological-Metamaterial-Based Vibration Energy Harvester", SPIE Smart Structures and Nondestructive Evaluation, Digital Forum, 7-10, March.

C16. D. Liu, C. Lan, **G. Hu**, L. Tang, T. Yang, 2021, "A Nonlinear Neutralizer with Self-Adaptation Capability", SPIE Smart Structures and Nondestructive Evaluation, Digital Forum, 7-10, March.

C17. **G. Hu**, J. Wang, L. Tang, Y. Yang, 2021, "Metamaterial Beam based Piezoelectric System for Galloping Energy Harvesting", International Conference on Advances in Energy Harvesting Technology (ICAEHT), 18-20, March.

C18. **G. Hu**, L. Tang, Y. Yang, 2021, "Modal Analysis Based Approach for Estimating Bandgap Formation in Timoshenko Metamaterial Beams", The 8th International Conference on Vibration Engineering (ICVE2021), 23-26 July, Shanghai, China.

C19. C. Lan, **G. Hu**, L. Tang, Y. Yang, 2021, "Structural Design of a Topological-Metamaterial-Based Vibration Energy Harvester", The 8th International Conference on Vibration Engineering (ICVE2021), 23-26 July, Shanghai, China.

C20. X. Li, H. Tang, **G. Hu**, and J. Liang, 2021, "Live demo of a transient-motion-powered human motion detector", Proceedings of the 2021 IEEE International Symposium on Circuits and Systems (ISCAS2021), 23-26 May, Daegu, Korea.

C21. X. Li, **G. Hu**, H. Tang, Y. Zhu, J. Liang, 2021, "Dynamics Analysis of a Transient Plucking Energy Harvester towards Battery-free Motion-Sensing System", The 3rd International Conference on Vibration and Energy Harvesting Applications (VEH2021), 9-12 July, Xi'an, China[††].

Conference Posters / Abstracts:

P1. **G. Hu**, L. Tang, R. Das, 2017, "Acoustic Metamaterials with Coupled Local Resonators for Broadband Vibration Suppression", 4th International Conference on Phononic Crystals/Metamaterials, Phonon Transport/Coupling and Topological Phononics (Phononics 2017), Changsha, China, 4-9 June.

P2. C. Lan, Y. Liao, **G. Hu**, L. Tang, 2018, "Maximum Power and Power Limit of a Monostable Piezoelectric Energy harvester", 1st International Conference on Vibration and Energy Harvesting Application (VEH2018), Shenzhen, China, 2-4 November.

Professional Services / Activities

Editorial Board Membership

Guest Editor, MDPI Symmetry (2021 -);
Review Editor, Frontiers in Mechanical Engineering (2021 -);
Guest Editor, ASCE Journal of Environmental Engineering (2022 -);

[††] Best Paper Award

Conference Committee

EAI HealthWear 2021 - 3rd EAI International Conference on Wearables in Healthcare, Technical Program Committee
NESP 2022 - International Conference on New Energy, Energy Storage and Power Engineering, Program Committee
vMETA 2022 - Virtual Meet on Metamaterials, Organizing Committee

Journal Peer Reviewer [33]

ELSEVIER Applied Energy
ELSEVIER Energy
ELSEVIER Forces in Mechanics
ELSEVIER Journal of Sound and Vibration
ELSEVIER Mechanical Systems and Signal Processing
ELSEVIER International Journal of Mechanical Sciences
ELSEVIER Ultrasonics
ELSEVIER Sensors and Actuators A: Physical
ELSEVIER Thin-Walled Structures
ELSEVIER Mechanism and Machine Theory
ELSEVIER Applied Ocean Research
ELSEVIER Physics Letters A
ELSEVIER Alexandria Engineering Journal
IEEE/ASME Transactions on Mechatronics
IEEE Transactions on Industrial Electronics
IEEE Transactions on Circuits and Systems II: Express Briefs
NATURE Scientific Reports
AIP Applied Physics Letters
AIP AIP Advances
IOP Smart Materials and Structures
IOP Journal of Physics D: Applied Physics
SAGE Journal of Intelligent Material Systems and Structures
SPRINGER Journal of Zhejiang University-SCIENCE A
TAYLOR & FRANCIS Mechanics of Advanced Materials and Structures
TAYLOR & FRANCIS Chemical Engineering Communications
WORLD SCIENTIFIC International Journal of Applied Mechanics
IOS International Journal of Applied Electromagnetics and Mechanics
MDPI Applied Sciences
MDPI Machines
MDPI Electronics
MDPI Materials
MDPI Crystals
MDPI Nanomaterials

Conference Peer Reviewer

ASME DSCC 2018 Dynamic Systems and Control Conference

Invited Talks

+ "Multi-functional Piezoelectric Metamaterial Systems" @ Beijing Jiaotong University (06 June 2018)

+ "Metamaterial Beam with Coupled Local Resonators for Enhancing Vibration Suppression and Energy Harvesting" @ Beijing Institute of Technology (07 June 2018)

+ "Multifunctional Piezoelectric Metamaterials: Vibration Suppression and Energy Harvesting" @ Nanjing University of Aeronautics and Astronautics (30 December 2020)

Funding and Grants

+ 'Metamaterial Based Energy Harvesting: A Novel and Efficient Technology', (Grant No. 3708242), NZD 65,000, Sponsor: Energy Education Trust of New Zealand, 2015-2019. (Principal PhD student Researcher)

+ 'The Design and Application of Intelligent Piezoelectric Metamaterial System', (Grant No. GZ21114), CNY 80,000, Sponsor: State Key Laboratory of Structural Analysis for Industrial Equipment, Dalian University of Technology, 2021-2023. (Principal Investigator)

+ 'Energy Harvesting Based on Structural Vibrations of Bridges', (Grant No. 2020YFH0066), International Innovation Cooperation Project, CNY 200,000, Sponsor: Sichuan Science and Technology Program, 2020-2021. (Research Fellow Investigator)

+ 'Automating the Process of Concrete Finishing', SGD 204,000, Sponsor: Kajima (one of the largest Japanese construction companies), Japan, 2021-2023. (Research Fellow Investigator)

+ 'Use of Embedded Sensors to Validate Stresses/Loads in Underground Infrastructures and for Structural Health Monitoring', (CoT_LTA_GC2018_001), SGD 1,244,000, Sponsor: Cities of Tomorrow R&D Programme (CoT) Singapore, 2021-2024. (Research Fellow Investigator)

Awards and Honors

2019.05	Research Excellence Scholarship, Department of Mechanical Engineering, The University of Auckland, New Zealand
2018.11	Merit Scholarship, Department of Mechanical Engineering, The University of Auckland, New Zealand
2016.07	CSC Doctoral Scholarship, China Scholarship Council, China
2015.05	EET PhD Research Scholarship, Energy Education Trust, New Zealand
2014.09	First-class Postgraduate Scholarship, SWJTU, China
2013.09	First-class Postgraduate Scholarship, SWJTU, China
2012.09	First-class Postgraduate Scholarship, SWJTU, China
2010.07	Eiffel Scholarship, Ministry of Foreign Affairs and International Development, France
2010.05	First-class Undergraduate Scholarship, SWJTU, China
2009.11	National Scholarship, Ministry of Education, China
2009.11	Merit Student, SWJTU, China
2009.05	First-class Undergraduate Scholarship, SWJTU, China

Teaching Assiant/ Graduate Teaching Assitant

2019	MECHENG 731 Engineering Design 4M
2016 – 2019	MECHENG 334 Engineering Design 3M
2016 – 2019	MECHENG 340 Mechanics of Materials
2015 – 2016	MECHENG 222 Dynamics

Student Supervision

Final Year Project (FYP) Students

Yuanyun YONG, 2018.03 – 2018.10 @ University of Auckland

Summer Research Students

Annan CHEN, 2018.12 – 2019.03 @ University of Auckland

Master Students

Tianyi ZHANG, 2019.04 – 2019.12 @ University of Auckland

Yongji GAO, 2020.05 – 2020.12 @ ShanghaiTech University

Qingzhi LI, 2021.10 - @ Dalian University of Technology (Overseas co-supervisor)

De LU, 2021.10 - @ Dalian University of Technology (Overseas co-supervisor)