

# Curriculum Vitae

## Hailing Fu

### CONTACT DETAILS

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### APPOINTMENTS

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<b>Professor</b> of Integrated Transducers School of Automation, Beijing Institute of Technology	01. 2023 –
<b>Lecturer</b> in Electromechanical Systems Mechanical Electrical and Manufacturing Engineering, Loughborough University Fellow of Higher Education Academy, UK, 2022 -	09. 2019 – 2023.01
<b>Research Associate (RA)</b> in Aeronautics Department Imperial College London (ICL), London, UK Project: Structure Health monitoring, manufacturing and Repair technologies for Life Management Of Composite fuselage ( <a href="#">SHERLOC, EU Cleansky 2 Project, 9M€</a> ) Supervisor: Prof. Ferri Aliabadi and Prof Zahra Sharif Khodaei	10. 2017 – 08.2019

### ACADEMIC QUALIFICATIONS

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<b>PhD in Electrical and Electronic Engineering</b> Imperial College London (ICL), London, UK PhD Project: Rotational energy harvesting for low-power electronics Supervisor: Prof. Eric M. Yeatman, Head of Department, FREng, FIEEE <b>Eryl Cadwallader Davies prize - Best EEE PhD Thesis 2017-2018</b> ( <i>One winner per year</i> )	10. 2014 – 03. 2018
<b>MEng in Mechatronic Engineering</b> Xi'an Jiaotong University, China (3.64 / 4, Distinction)	09. 2011 – 06.2014
<b>BEng in Mechanical Engineering</b> China University of Mining and Technology, China (91.72/100, 1 <sup>st</sup> Class Honors)	09. 2007 – 06.2011

### RESEARCH INTERESTS

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- ✧ Energy harvesting and self-powered IoT
- ✧ Structural health monitoring, acoustic emission and guided waves
- ✧ Smart materials and structures
- ✧ Nonlinear dynamics and electromechanical modelling

### EXTERNAL ACADEMIC ACTIVITIES

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- ✧ Member of the Advisory Editorial Board at **Next Energy** (Elsevier) journal, 2022 -
- ✧ Session Chair for "Sustainable Energy Applications", PowerMEMS 2022, Salt Lake City, USA, 2022.
- ✧ Member of the Advisory Editorial Board at **Hybrid Advances** (Elsevier) journal, 2022 -

- ✧ Session Chair on ‘Mechatronics for Energy Harvesting and Self-Powered Sensing’, IEEE ICM 2023.
- ✧ Guest Editor for Special Issue in Smart Materials and Structures, IOP Science, 2022
- ✧ Guest Editor for "Nonlinear Active Vibration Control" in Actuators, 2022 - 2023
- ✧ Session Chair on ‘Power Electronics for Lighting, Consumer Electronics and Power ICs’, IEEE PEAC 2022
- ✧ Topic Editor for Advanced Energy Harvesting Technology in MDPI (Sensors, Micromachines), 2022
- ✧ Lead Guest Editor for Special Issue in Journal of Sensors, Hindawi, 2021 - 2022.
- ✧ Technical Program Committee (TPC) Member for Transducer 2021  
(<https://www.transducers2021.org/>, one of the most prestigious conferences in MEMS from IEEE).
- ✧ Organizing Committee Member for PowerMEMS 2021; PowerMEMS-in-Action Chair.
- ✧ Session Chair on ‘Wireless Sensing Systems for Structural Health Monitoring’ in the 2020 and 2022, 10th European Workshop on Structural Health Monitoring (Top conference in SHM)
- ✧ Co-Program Chair in the 2020 International Conference on Sensing, Diagnosis, Prognosis and Control, China on the topics of ‘Sensing and Energy Harvesting’
- ✧ Research Grant Reviewer for UK EPSRC and UKRI, 2020 -
- ✧ Advisor, International Consortium of Nanotechnologies (Icon) Studentship, 2018 – 2019
- ✧ Energy Harvesting Network, Member, 2015 – Now
- ✧ Reviewer for top-tier journals, including Microsystems and Nanoengineering, IEEE Transactions on Industrial Electronics, Smart Materials and Structures, Aerospace Science and Technology, Mechanical Systems and Signal Processing, Applied Energy, Energy Conversion and Management.

## RESEARCH GRANTS & CONTRACTS

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- ✧ 2022/11 – 2025/10 Transformative Digital Air Vehicle with IoT Sensors for Safer Urban Skies, Horizon Europe – Research and Innovation Actions (HORIZON-CL5-2022-D5-01-13), €4.1, Role: PI at LU. £390k
- ✧ 2022/09 – 2022/11 Game Changers challenge ‘Long term monitoring of store ducts’, Sellafield Ltd., Role: PI, £10k
- ✧ 2022/10 – 2026/09 Multi-parameter wireless sensing for condition monitoring of nuclear spent fuel canisters, EPSRC CASE Conversion Studentship, Role: PI, £64 (£30k funded by the National Nuclear Laboratory)
- ✧ 2022/03 – 2024/03 Self-powered sensing using rotational micro-generators and ultralow-power electronics for autonomous medical implants, The Royal Society UK, IEC\NSFC\211070 - International Exchanges 2021 Cost Share (NSFC), Role: PI £12k
- ✧ 2022/07 – 2022/12 Micromachined Multi-Sensing Solutions toward Digitized Industries, EPSRC TFI Network+, Role: Co-I £56k
- ✧ 2021/03 – 2023/03 *Transcutaneous Power and Information Transfer by Ultrasound in Ant-Sized Medical Implants*, Sponsor: The Royal Society UK, RGS\R2\202148, Research Grant, Role: PI £17k
- ✧ 2021/05 – 2023/04 *Self-Powered Aircraft Structural Health Monitoring using Integrated Sensing and Harvesting Transducers*, State Key Laboratory of Mechanics and Control of Mechanical Structures, Nanjing University of Aeronautics and Astronautics, China, Research Fund, Role: PI 200k RMB
- ✧ 2020/07 – 2021/07 *Power Management for Hybrid Energy Harvesters*; Sponsor: EU Enables Project, in collaboration with Tyndall, University of Cork, Ireland, Role: PI £20k (Estimated)
- ✧ 2019/03 – 2021/03 *A Self-Powered Condition Monitoring Scheme for Railway Systems*, Sponsor: The Royal Society, UK - International Exchanges Program with China, Role: Main applicant £24k
- ✧ 2018/09 – 2019/09 Structure Health monitoring, manufacturing and Repair technologies for Life Management Of Composite fuselage (SHERLOC) EU Cleansky 2 Project, Role: RA £9M

## TEACHING & SUPERVISION

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10. Supervisor for 4 PhD students	2020 -
9. Project group director, Robotics, 2 <sup>nd</sup> Year	2020 -
8. Placement Tutor, Visiting students during the industrial placement year	2019 -
7. Supervisor for 4 final year UG project students and 8 MSc students	2019 -
6. Lecturer, Statics and Dynamics, WSA101, First-Year	2020 -
5. Lecturer, Mechanics of Materials, First-Year	2019 -
4. Assistant Supervisor of a final-year undergraduate in Aeronautics Department	2018 - 2019
3. Teaching Assistant, Structural Health Monitoring, Undergraduate course	Dec. 2018
2. Lecturer, Stress Analysis – Introduction/Revision Course, MSC course	Oct. 2018
1. Assistant Supervisor of 2 PhD students at Imperial College	2017 – 2019

## HONORS & AWARDS

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14. IOP Journal of Micromechanics and Microengineering, Emerging Leader Nomination Award, 2023.	
13. PowerMEMS 2022 Best Paper Award, 3 <sup>rd</sup> place in Europe, Middle East, Africa, USA, 2022	
12. Outstanding Reviewer Award from ‘Mechanical Systems and Signal Processing’ journal	2021
11. IOP Trusted Reviewer in 2020 from the Institute of Physics, UK	2020
10. Eryl Cadwallader Davies prize - Best EEE PhD Thesis 2017-2018 at Imperial	2020
9. MINE 2020 Young Scientists Award Finalist, Microsystems and Nanoengineering	2020
8. Best Paper Finalist, Power MEMS Conference 2019 in Krakow, Poland	2019
7. Student Travel Grant from Transducer Research Foundation (TRF) for MEMS 2017	2017
6. Santander Mobility Award, ICL (£1, 000, 5 awards for all staff and students @ IC)	2016
5. Best Poster Award, Energy Harvesting 2016 in London	2016
4. Best Student Paper Finalist, IEEE MEMS Conference 2016 in Shanghai	2016
3. Santander Mobility Award, ICL (£1, 000, 5 awards for all staff and students @ IC)	2015
2. MIT-Imperial Global Fellows Programme, MIT, USA	2015
1. Department Fees Scholarship, Imperial College London	2014

## Invited, Keynote & Plenary Research Talks

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✧ Chinese Congress of Theoretical and Applied Mechanics, China	Aug. 2021 (postponed to 2022)
✧ Advanced Composites, Norwegian University of Science and Technology, Norway	Dec. 2020
✧ Energy Harvesting Network 2020, Birmingham UK	Nov. 2020
✧ Rotational Energy Harvesting, Xidian University, China	Sept. 2020
✧ Vibration Energy Harvesting 2020, Xi’an, China	July 2020

## PUBLICATION SUMMARY

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- ✧ 26 journal publications, including 19 papers as the first and/or corresponding author.
- ✧ 22 conference papers, including 1 best poster and 2 best student paper finalists.
- ✧ 5 patents, including 3 patents filed in the UK.
- ✧ Citation (Google Scholar): 1046; h-index: 16.

### Journal Publications (\*Corresponding author, †Co-first author)

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26. M. Liu, Y. Zhang, **H. Fu\***, Y. Qin\*, A. Ding, E. M. Yeatman, “A seesaw-inspired bistable energy harvester with

- adjustable potential wells for self-powered internet of train monitoring", *Applied Energy*, 337, 120908, 2023 (IF: 11.446, 15/119 in Energy & Fuels).
25. **H. Fu\***, J. Jiang, S. Hu, J. Rao, S. Theodossiades, "Multi-Stable Ultra-Low Frequency Energy Harvester using a Nonlinear Pendulum and Piezoelectric Transduction for Self-Powered Sensing", *Mechanical Systems and Signal Processing*, 2023, (IF: **8.934, 4/137 in Mechanical Engineering**).
24. S. Masabi, **H. Fu\***, and S. Theodossiades "A bistable rotary-translational energy harvester from ultra-low-frequency motions for self-powered wireless sensing", *Journal of Physics D: Applied Physics*, (IF: 3.409, 61/161 in Applied Physics).
23. J. Rao, J. Wang, S. Kollmannsberger, J. Shi, **H. Fu\***, E. Rank\*, "Point cloud-based elastic reverse time migration for ultrasonic imaging of components with vertical surfaces", *Mechanical Systems and Signal Processing*, 2022, (IF: **8.934, 4/137 in Mechanical Engineering**).
22. D Tu, Y Zhang, L Zhu, **H Fu**, Y Qin, M Liu, A Ding, "A bistable vibration energy harvester with spherical moving magnets: Theoretical modelling and experimental validation", *Sensors and Actuators A: Physical*, 113782, 2022. (4.291, 15/64 in Instruments & Instrumentation).
21. **H. Fu\***, X. Mei, D. Yurchenko, S. Zhou, S. Theodossiades, K. Nakano, E. M. Yeatman, "Rotational Energy Harvesting for Self-Powered Sensing", *Joule*, 5 (5), 1074-1118, 2021 (IF: **46.048, 2/119 in Energy & Fuels**). 🏆 [Highly Cited Paper](#).
20. B. Gunn, P. Alevras, J. Flint, **H. Fu**, S. J. Rothberg, and S. Theodossiades. "A self-tuned rotational vibration energy harvester for self-powered wireless sensing in powertrains." *Applied Energy* 302, 117479, 2021. (IF: 11.446, 15/119 in Energy & Fuels).
19. Z. Lu, F. Zhang, **H. Fu**, H. Ding, and L.Q. Chen. "Rotational nonlinear double-beam energy harvesting." *Smart Materials and Structures*, 2021. (IF: 4.131, 18/64 in Instruments & Instrumentation). 🏆 [Highly Cited Paper](#).
18. **H. Fu**, J. Rao\*, M. S. Harb, S. Theodossiades. "Ultrasonic Wireless Power Links for Battery-Free Condition Monitoring in Metallic Enclosures". *Ultrasonics*, 114, 106395, 2021 (IF: 4.062, ranked 6/32 in Acoustics).
17. H. Liu, **H. Fu\***, L. Sun, C. Lee, E. M. Yeatman. "Hybrid Energy Harvesting Technology: From Materials, Structural Design, System Integration to Applications". *Renewable & Sustainable Energy Reviews*, 137, 110473, 2021. (IF: **16.799, ranked 1 of 41 in Green & Sustainable Science & Technology**). 🏆 [Highly Cited Paper](#).
16. K. Ding, Y. Zhang, F. T. Chan, C. Zhang\*, J. Lv, Q. O Liu, J. Leng, **H. Fu**. "A cyber-physical production monitoring service system for energy-aware collaborative production monitoring in a smart shop floor." *Journal of Cleaner Production*, 297, 126599, 2021. (IF: **11.072**, 5 of 41 in Green & Sustainable Science & Technology)
15. X. Zhao, Y. Qin\*, **H. Fu**, L. Jia, X. Zhang. "Blind source extraction based on EMD and temporal correlation for rolling element bearing fault diagnosis." *Smart and Resilient Transport*, 3(1), 52-65, 2021.
14. **H. Fu\***, S. Theodossiades, B. Gunn, I. Abdallah, E. Chatzi, "Ultra-low frequency energy harvesting using bi-stability and rotary-translational motion in a magnet-tethered oscillator", *Nonlinear Dynamics*, 101(4), 2131-2143, 2020. (IF: **5.741, ranked 13 of 138 in Mechanics, Highly Cited Paper** from Nonlinear Dynamics, 1/100).
13. **H. Fu\***, Z. Sharif Khodaei and M. H. Ferri Aliabadi, "An Event-Triggered Energy-Efficient Wireless Structural Health Monitoring System for Impact Detection in Composite Airframes", *IEEE Internet of Things Journal*, 6, 1183-1192, 2019. (IF: **10.238, ranked 18 of 276 in ENGINEERING, ELECTRICAL & ELECTRONIC**). 🏆 [Highly Cited Paper](#)
12. **H. Fu\*** and E. M. Yeatman, "Rotational Energy Harvesting using Bi-stability and Frequency Up-Conversion for Low-Power Sensing Applications: Theoretical Modelling and Experimental Validation", *Mechanical Systems and Signal Processing*, 125, 229-244, 2019 (IF: **8.934, 4/137 in Mechanical Engineering**) 🏆 [Highly Cited Paper](#).

11. **H. Fu\***, Z. Sharif Khodaei and M. H. Ferri Aliabadi, "A bio-inspired host-parasite structure for broadband vibration energy harvesting from low-frequency random sources," *Applied Physics Letters*, 114 (14), 143901, **2019** (IF: 3.971, ranked 50 of 161 in Applied Physics).
10. **H. Fu\***, Z. Sharif Khodaei and M. H. Ferri Aliabadi, "An Energy-Efficient Cyber-Physical System for Wireless On-Board Aircraft Structural Health Monitoring", *Mechanical Systems and Signal Processing*, 128, 352-368, **2019** (IF: **8.934**, **4/137** in Mechanical Engineering).
9. **H. Fu\***, S. Zhou and E. M. Yeatman, "Exploring coupled electromechanical nonlinearities for broadband energy harvesting from low-frequency rotational sources", *Smart Materials and Structures*, 28, 075001, **2019** (IF: 4.131, 18/64 in Instruments & Instrumentation).
8. I. Tabian, **H. Fu<sup>†</sup>**, and Z. Sharif Khodaei\*. "A convolutional neural network for impact detection and characterization of complex composite structures." *Sensors*, 22, 4933, **2019**. (IF: 3.847, ranked 19 of 64 in Instruments & Instrumentation).
7. **H. Fu\*** and E. M. Yeatman, "Comparison and Scaling Effects of Rotational Micro-Generators using Electromagnetic and Piezoelectric Transduction", *Energy Technology*, vol. 6(11), pp. 2220-2231, **2018** (IF: 4.149, ranked 72 of 119 in Energy & Fuels).
6. **H. Fu\*** and E. M. Yeatman, "Effective Piezoelectric Energy Harvesting Using Beam Plucking and a Synchronized Switch Harvesting Circuit", *Smart Materials and Structures*, 27, 084003, **2018** (IF: 4.131, ranked 18 of 64 in Instruments & Instrumentation, **Selected Paper from PowerMEMS 2017**).
5. **H. Fu\***, G. Chen, and N. Bai, "Electrode Coverage Optimization for Piezoelectric Energy Harvesting from Tip Excitation", *Sensors*, 18, 804, **2018** (IF: 3.847, ranked 19 of 64 in Instruments & Instrumentation).
4. **H. Fu\*** and E. M. Yeatman, "A methodology for low-speed broadband rotational energy harvesting using piezoelectric transduction and frequency up-conversion", *Energy*, 125, 152-161, **2017** (IF: 8.857, ranked 24 of 119 in Energy & Fuels).
3. **H. Fu\*** and E. M. Yeatman, "A miniaturized piezoelectric turbine with self-regulation for increased air speed range," *Applied Physics Letters*, 107, 243905, **2015** (IF: 3.971, ranked 50 of 161 in Applied Physics).
2. G. Chen, **H. Fu**, Q. Meng and J. Bao\*, "Design and Modelling of a Micro Piezoelectric Electric Generating Device with Adjustable Resonance Frequency," *Journal Of the Chinese Society Of Mechanical Engineers*, vol. 36, p. 403-411, Oct 2015. (Student First Author, IF: 0.228, ranked 138 of 138 in Mechanical Engineering).
1. G. Chen, Q. Meng, **H. Fu** and J. Bao\*, "Development and experiments of a micro piezoelectric vibration energy storage device," *Mechanical Systems and Signal Processing*, 40, p. 377–384, 2013 (IF: 8.934, **4/137** in Mechanical Engineering).

### Conference Publications

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22. G. Gibson, **H. Fu**, "Wireless power transfer using a Halbach array and a magnetically plucked piezoelectric transducer for medical implants", PowerMEMS 2022, Utah, USA, Accepted.
21. S. Masabi, **H. Fu**, and S. Theodossiades, "A multi-stable rotational energy harvester using a rolling sphere and magnetic coupling for ultra-low frequency motions", PowerMEMS 2022, Utah, USA (Best Paper Award Finalist).
20. V. Gyanchandani, S. Masabi, and **H. Fu**, "A self-powered wearable device using the photovoltaic effect for human health monitoring", *2021 IEEE 20th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (PowerMEMS)*, IEEE, Exeter, United Kingdom, 30 December 2021.
19. **H. Fu**, Y. Zhang, M. Liu, Y. Qin, and E.M. Yeatman, "A bistable energy harvester for self-powered sensing in rail transport condition monitoring", in *21st International Conference on Solid-State Sensors, Actuators and*

Microsystems (Transducers). 2021.

18. S. Masabi, **H. Fu**, and S. Theodossiades, "An ultra-low frequency magnet-tethered vibration energy harvester for self-powered sensing", in 21st International Conference on Solid-State Sensors, Actuators and Microsystems (Transducers). 2021.

17. **H. Fu**, Z. Sharif Khodaei, and M.H. Aliabadi, "Synchronized Wireless Sensors for Aircraft Structural Health Monitoring", AIP Conference Proceedings, 2309, 020011, 2020.

16. Tabian, I., **H. Fu**, and Zahra Sharif Khodaei. "Impact Detection on Composite Plates Based on Convolution Neural Network." In Key Engineering Materials, vol. 827, pp. 476-481. Trans Tech Publications Ltd, 2020.

15. **H. Fu**, W. Song, Y. Qin and E. M. Yeatman, "Broadband Vibration Energy Harvesting from Underground Trains for Self-Powered Condition Monitoring", 2019 19th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (PowerMEMS), Krakow, Poland, 2-6 Dec. 2019, IEEE. (**Best Paper Finalist Award**) DOI: 10.1109/PowerMEMS49317.2019.93285904627.

14. **H. Fu**, Z. Sharif Khodaei, and M.H. Aliabadi, "An energy efficient wireless module for on-board aircraft impact detection", Proceedings Volume 10971, Nondestructive Characterization and Monitoring of Advanced Materials, Aerospace, Civil Infrastructure, and Transportation XIII; 109711B (2019) <https://doi.org/10.1117/12.2513534>. Event: SPIE Smart Structures + Nondestructive Evaluation, 2019, Denver, Colorado, United States.

13. **H. Fu**, Z. Sharif Khodaei, and M.H. Aliabadi, "Broadband Energy Harvesting using Bi-Stability and Frequency Up-Conversion for Self-Powered Sensing in the Internet of Things", 2019 20th International Conference on Solid-State Sensors, Actuators and Microsystems & Euroensors XXXIII (TRANSDUCERS & EUROSENSORS XXXIII), 354-357, IEEE, 23-27 June 2019. DOI: 10.1109/TRANSDUCERS.2019.8808486.

12. **H. Fu**, Z. Sharif Khodaei, M.H. Aliabadi, "Wi-PASS: Wireless Passive Sensing System for On-Board Structural Health Monitoring of Composite Airframes", Composite Showcase, London, 2018.

11. **H. Fu**, D. Bekas, Z. Sharif Khodaei, M.H. Aliabadi, "Structural Health Monitoring for Condition Based Maintenance of Composite Structures", *International Symposium on Structural Health Monitoring and Nondestructive Testing*, October 2018, Saarbruecken, Germany. <https://www.ndt.net/search/docs.php3?id=23538>.

10. **H. Fu**, A. Hami Seno, Z. Sharif Khodaei and M.H. Aliabadi, "Design of a Wireless Passive Sensing System for Impact Detection of Aerospace Composite Structures", 2018 5th IEEE International Workshop on Metrology for AeroSpace (MetroAeroSpace), Rome, Italy, 20-22 June 2018. DOI: 10.1109/MetroAeroSpace.2018.8453608.

9. **H. Fu** and E. M. Yeatman, "Effective Piezoelectric Energy Harvesting using Beam Plucking and SSHI Interface Circuit", *PowerMEMS 2017*, Japan.

8. **H. Fu** and E. M. Yeatman, "Broadband Rotational Energy Harvesting using Bistable Mechanism and Frequency Up-Conversion", 2017 IEEE 30th International Conference on Micro Electro Mechanical Systems (MEMS), 22-26 Jan. 2017, Las Vegas, NV, USA. DOI: 10.1109/MEMSYS.2017.7863542.

7. **H. Fu** and E. M. Yeatman, "Broadband Rotational Energy Harvesting with Non-linear Oscillator and Piezoelectric Transduction", *Journal of Physics: Conference Series, Volume 773, 16th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (PowerMEMS 2016) 6-9 December 2016, Paris, France*, doi:10.1088/1742-6596/773/1/012008.

6. **H. Fu**, K. Cao, R. Xu, M. A. Bhourri, R. Martinez-Botas, S.-G. Kim, and E. M. Yeatman., "Footstep energy harvesting using heel strike-induced airflow for human activity sensing," in 2016 IEEE 13th International Conference on Wearable and Implantable Body Sensor Networks (BSN), IEEE, 14-17 June 2016, San Francisco, CA, USA.

5. **H. Fu**, M. D'Auria, G. Dou and E. M. Yeatman, "A dynamic regulating mechanism for increased airflow speed

range in micro piezoelectric turbines," in *2016 IEEE 29th International Conference on Micro Electro Mechanical Systems (MEMS)*, IEEE, pp. 1220-1223, 2016, Shanghai, China. (**Best Student Paper Finalist Award**).

4. **H. Fu**, M. D'Auria, G. Dou and E. M. Yeatman, "Airflow energy harvesting A dynamic regulating mechanism for increased airflow speed range in micro piezoelectric turbines", *Energy Harvesting 2016*, London, 11 May, 2016 (Best Poster Award).

3. **H. Fu** and E.M. Yeatman, "Electromagnetic vs. piezoelectric wind energy harvesting for low wind speed applications," *Energy Harvesting 2015*, London, 19 March 2015.

2. **H. Fu**, R. Xu, K. Seto, E. M. Yeatman and S. G. Kim, "Energy Harvesting from Human Motion Using Footstep-Induced Airflow," *Journal of Physics: Conference Series, Volume 660, The 15th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (PowerMEMS 2015)* 1–4 December 2015, Boston, USA. doi:10.1088/1742-6596/660/1/012060.

1. **H. Fu** and E. M. Yeatman, "A Miniature Radial-Flow Wind Turbine Using Piezoelectric Transducers and Magnetic Excitation," *Journal of Physics: Conference Series, Volume 660, The 15th International Conference on Micro and Nanotechnology for Power Generation and Energy Conversion Applications (PowerMEMS 2015)* 1–4 December 2015, Boston, USA. doi:10.1088/1742-6596/660/1/012058.

## Patents

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5. B. Gunn, P. Alevras, J. Flint, **H. Fu**, S. J. Rothberg, and S. Theodossiades, "Vibration Energy Harvesting Device", 2021, GB2111498.8, UK.

4. Y. Qin, **H. Fu**, Y. Zhang and M. Liu, "Bistable Hybrid Harvester and Self-Powered Sensing", 2021, CN112821708A.

3. M. H. Ferri Aliabadi, Z. Sharif Khodaei and **H. Fu**, "Wireless Passive Sensing Unit", UK patent, 2018, GB1807629.9.

2. M.H. Aliabadi, Z. Sharif Khodaei and **H. Fu**, "System for monitoring a component", UK patent, 2018, GB1812596.3.

1. G. Z. Chen, Q. C. Meng and **H. Fu**. Self-tuning micro-generator device and generating method. State Intellectual Property Office of the P.R.C. Dec. 2012, CN103066884A.

## PhD Student Supervision

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1. Sayed Nahiyen Masabi, second-year PhD student, 2020-2023, "Rotational Energy Harvesting for Electric Vehicle Powertrains", Primary Supervisor (Co-supervisor: Prof Theodossiades).

2. Angus James Fitzsimons, first-year PhD student, 2021-2024, "Energy harvesting for medical implants", Primary Supervisor (Co-supervisor: Prof Theodossiades and Prof Korossis).

3. Tianhui Li, first-year PhD student, 2021-2024, "Ultrasonic power transfer for self-sustained implantable devices", Primary Supervisor (Co-supervisor: Prof Theodossiades and Prof Korossis).

4. Sadia Bakhtiar, first-year PhD student, 2022 – 2025, "Low-frequency fluid energy harvesting for environmental sensing", Primary Supervisor (Co-supervisor: Prof Theodossiades).