



Professor Jean W. Zu

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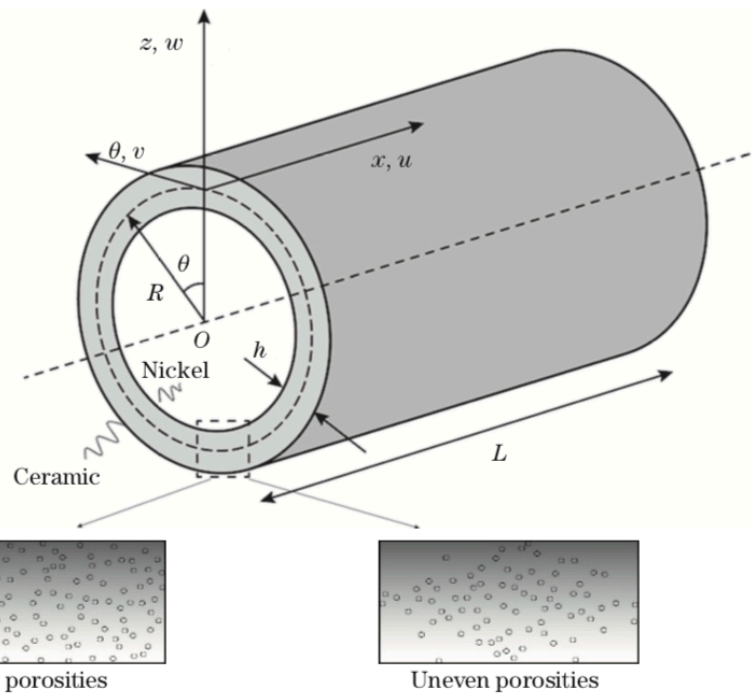


Fig. 1 An FGM cylindrical shell with porosities

From: Yanqing Wang, Ye Chao and Jean W. Zu. (2018). "Identifying temperature effect on vibrations of functionally graded cylindrical shells with porosities", *Applied Mathematics and Mechanics*, (39), pp.1587-1604.

Dean and Professor, Schaefer School of Engineering and Science, Department of Mechanical Engineering Stevens Institute of Technology, New Jersey, USA

General Information:

Jean Zu came to Stevens on May 1, 2017 as Dean after serving as the department chair for Department of Mechanical & Industrial Engineering at the University of Toronto since 2009. She has more than 30 years experience in academia, where she published 165 journal papers and 165 conference papers. She has been awarded more than 50 research grants and contracts, primarily as Principal Investigator. Dr. Zu has also supervised close to 70 graduate students, including 36 PhD students.

Education:

PhD (1993), University of Manitoba
Master of Science (1986), Tsinghua University
Bachelor of Science (1984), Tsinghua University

Research Interests:

Dean Zu's research interests have focused on mechanical vibrations and dynamics, and mechatronics with applications including biomedical instrumentation and energy harvesting.

Selected Publications:

1. Wang YQ, Ye C and Zu JW. (2019). "Nonlinear Vibration of Metal Foam Cylindrical Shells Reinforced with Graphene Platelets", *Aerospace Science and Technology*, (85), pp. 359-370.
2. Yanqing Wang, Ye Chao and Jean W. Zu. (2018). "Identifying temperature effect on vibrations of functionally graded cylindrical shells with porosities", *Applied Mathematics and Mechanics*, (39), pp.1587-1604.
3. Wang YQ and Zu JW. (2018). "Speed-dependent Nonlinear Broadband Vibrations of Smart Functionally Graded Piezoelectric Material Plates", *Journal of intelligent material systems and structures*, (26), pp.1764-1776.
4. Wang YQ and Zu JW. (2018). "Vibration Characteristics of Moving Sigmoid Functionally Graded Plates Containing Porosities", *International Journal of Mechanics and Materials in Design*, (14), pp.473-489.
5. Zhongjie Li, Zhengbao Yang, Hani E. Naguib and Jean Zu. (2018). "Design and Studies on a Low-frequency Truss-based Compressive-mode Piezoelectric Energy Harvester", *IEEE/ASME Transactions on Mechatronics*, (Impact factor: 4.3). (23), pp. 99.
6. Zhengbao Yang, Shenxi Zhou, Jean Zu and Daniel Inman. (2018). "High-Performance Piezoelectric Energy Harvesters and Their Applications", *Joule*, (2), pp. 642-697.
7. Hassan Askaria, Zia Saadatniab, EhsanAsadia, Amir Khajepoura, Mir Behrad Khamesee, and Jean Zu. (2018). "A Flexible Hybridized Electromagnetic-Triboelectric Multi-Purpose Self-Powered Sensor", *Nano Energy*, (45), pp. 319-329.
8. Wang Y and Zu JW. (2017). "Analytical Analysis for Vibration of Longitudinally Moving Plate Submerged in Infinite Liquid Domain", *Applied Mathematics and Mechanics*, (38), pp.625-646.
9. Wang YQ and Zu JW. (2017). "Large-amplitude Vibration of Sigmoid Functionally Graded Thin Plates with Porosities", *Thin-Walled Structures*, (119), pp. 911-924.
10. Wang YQ and Zu JW. (2017). "Vibration Behaviors of Functionally Graded Rectangular Plates with Porosities and Moving in Thermal Environment", *Aerospace Science and Technology*, (69), pp. 550-562.
11. A. Ahmed, I. Hassan, P. Song, M. Gamaleledin, A. Radhi, N. Panwar, S. C. Tjin, A. Y. Desoky, D. Sinton, K.T. Yong, and J. Zu. (2017). "Self-adaptive Bioinspired Hummingbird-wing Stimulated Triboelectric Nanogenerators", *Scientific Reports*, (7), pp. 17143.
12. Zhengbao Yang, Alper Erturk and Jean Zu. (Jul 2017). "On the efficiency of piezoelectric energy harvesters", *Extreme Mechanics Letters*, (15), pp. 26-37.
13. Wang, Yanqing and Zu, Jean. (2017). "Porosity-dependent nonlinear forced vibration analysis of functionally graded piezoelectric smart material plates", *Smart Materials and Structures*, (26), pp. 105014.
14. A. Ahmed, I. Hassan, T. Ibn-Mohammed, H. Mostafa, I. M. Reaney, L. S.C. Koh, J. Zu, and Z. L. Wang. (2017). "Environmental Life Cycle Assessment and Techno-Economic Analysis of Triboelectric Nanogenerator", *Energy Environmental Science*, (Impact Factor: 30). (10), pp.653-671.
15. A. Ahmed, I. Hassan, T. Jiang, K. Youssef, L. Liu, M. Hedaya, T. A. Yazid, J. Zu and Z. L. Wang. (2017). "Design Guidelines of Triboelectric Nanogenerator for Water Wave Energy Harvesters", *Nanotechnology*, (28), pp.185403.
16. A. Ahmed, Z. Saadatnia, I. Hassan, Y. Zi, Y. Xi, X. He, J. Zu, and Z. L. Wang. (2017). "Self-Powered Wireless Sensor Node Enabled by a Duck-shape Triboelectric Nanogenerator for Harvesting Water Wave Energy", *Advanced Energy Materials*, (Impact Factor: 17) . (7), pp.1601705.
17. A. Ahmed, I. Hassan, M. Hedaya, T. A. El-Yazid, J. Zu, and Z. L. Wang. (2017). "Farms of Triboelectric Nanogenerators for Harvesting Wind Energy: A Potential Approach towards Green Energy", *Nano Energy*, (Impact Factor: 13) . (36), 2211-2855.
18. A. Ahmed, S. L. Zhang, I. Hassan, Z. Saadatnia. Zi, J. Zu, and Z. L. Wang. (2017). "A Washable, Stretchable, and Self-Powered Human-Machine Interfacing Triboelectric Nanogenerator for Wireless Communications and Soft Robotics Pressure Sensor Arrays", *Extreme Mechanics Letter*, (13), pp.25-35.
19. Zhengbao Yang, Yan Qing Wang, Lei Zuo and Jean Zu. (2017). "Introducing arc-shaped piezoelectric elements into energy harvesters", *Energy Conversion and Management*, (148), pp. 260-266.
20. Wang YQ and Zu JW. (2017). "Nonlinear steady-state responses of longitudinally traveling functionally graded material plates in contact with liquid", *Composite Structures*, (164), pp.130-144.
21. Yan Qing Wang and Jean W. Zu. (2017). "Instability of Viscoelastic Plates with Longitudinally Variable Speed and Immersed in Ideal Liquid", *International Journal of Applied Mechanics*. (9).

22. Zhengbao Yang and Jean Zu. (2016). "Modeling and Parametric Study of a Force-amplified Compressive-mode Piezoelectric Energy Harvester", *Journal of Intelligent Material Systems and Structures*, (127), pp. 37-41.
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28. Zhengbao Yang and Jean Zu. (2016). "Comparison of PZN-PT, PMN-PT single crystals and PZT ceramic for vibration energy harvesting", *Energy Conversion and Management*, (122), pp.321 - 329.
29. Haitao Li, Zhengbao Yang, Jean Zu, and Weiyang Qin. (2016). "Distributed parameter model and experimental validation of a compressive-mode energy harvester under harmonic excitations", *AIP Advances*, (6), pp. 085310.
30. Zhengbao Yang, Jean Zu, and Zuo Xu. (2016). "Reversible Nonlinear Energy Harvester Tuned by Tilting and Enhanced by Nonlinear Circuits", *IEEE/ASME Transactions on Mechatronics*, 4 (21), pp. 2174 - 2184.
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