

Dr. Yun Jing  
Associate Professor  
Graduate Program of Acoustics  
Penn State University

**Research Interest:** Acoustic/elastic metamaterial, phononic crystal, therapeutic ultrasound, ultrasound imaging, nonlinear acoustics, noise and vibration control, computational acoustics, architectural acoustics

**1. Education background:**

Ph.D., Architectural Acoustics, 2009, Rensselaer Polytechnic Institute, NY  
M.S., Architectural Acoustics, 2007, Rensselaer Polytechnic Institute, NY  
B.S., Electronic Science and Engineering, 2006, Nanjing University, China

**2. Professional experience:**

Associate Professor, 1/2020-present, Penn State University, Graduate Program of Acoustics  
Associate Professor, 8/2017-12/2019, North Carolina State University, Mechanical and Aerospace Engineering  
Assistant Professor, 8/2011-7/2017, North Carolina State University, Mechanical and Aerospace Engineering  
Postdoctoral Fellow, 8/2009-8/2011, Harvard Medical School, Brigham and Women's hospital, Department of Radiology

**3. Membership in professional organizations:**

- Acoustical Society of America (ASA), Fellow
- IEEE, Senior Member
- American Society of Mechanical Engineers (ASME), Member

**4. Scholarly and professional honors:**

- IEEE UFFC Star Ambassador Lectureship Award, 2020
- PIERS 2019 Xiamen Young Scientist Award, 2019
- MIT Technology Review Innovator Under 35 China, 2018  
*Since 1999, MIT Technology Review has identified young innovators doing exciting work that could shape their fields for decades. Recognizing the rise of Chinese technology talent, the magazine decided to launch a 35 Innovators Under 35 specifically for China in May of 2017. This list is a collaboration between MIT Technology Review in Cambridge and our Chinese partners, TR China. It gathers the young Chinese who could revolutionize our lifestyles and shape the future of technology and industry.*
- IEEE Ultrasonics Early Career Investigator Award, 2018  
*The IEEE Ultrasonics Early Career Investigator Award recognizes the achievements of a researcher in the area of ultrasonics and its applications. The award is specific to those researchers in the early stages of their career. One award per year.*
- R. Bruce Lindsay Award, ASA, 2018  
*The R. Bruce Lindsay Award is presented in the spring to a member of the Society who during a period of two or more years immediately preceding the award, has been active in the affairs of the Society and has contributed substantially, through published papers, to the advancement of theoretical or applied acoustics, or both. Eligible members must be no more than 10 years post terminal degree at the time of award acceptance. One award per year.*
- New Investigator Award, North Carolina Space Grant, 2014
- 2<sup>nd</sup> prize award for best student paper, ASA conference, Paris, 2008
- Robert B. Newman Award, ASA, 2007
- Noise Young Presenter Award, ASA conference, New Orleans, 2007
- 2<sup>nd</sup> prize award for best student paper, ASA meeting, Salt Lake City, 2007
- HASS Fellowship, Rensselaer Polytechnic Institute, 2007-2009

## 5. Professional service:

### Off campus service

- Chair, Acoustical Society of America NC Chapter, 2017-2019
- Associate Editor, Journal of Acoustical Society of America, 2018-present
- Elected Member of Technical Committee of IEEE Ultrasonics (TPC 3)
- Member of Technical Committee of ASA (Physical Acoustics, Biomedical Acoustics, and Noise)
- Reviewer for the following journals
  - Nature Materials
  - Nature Communications
  - Physical Review X
  - Physical Review Applied
  - Science Advances
  - Advanced Science
  - Journal of Acoustical Society of America
  - National Science Review
  - Journal of Physics D: Applied Physics
  - IEEE Access
  - Journal of Applied Physics
  - Medical Physics
  - Physics in Medicine and Biology
  - Scientific Report
  - Applied Physics Express
  - Europhysics Letters
  - Journal of Sound and Vibration
  - Acta Materialia
  - Nature Physics
  - Physical Review Letters
  - Physical Review Materials
  - Physical Review B
  - Research
  - Advanced Materials Technologies
  - Advanced Functional Materials
  - Acta Acustica United with Acustica
  - IEEE Transactions on UFFC
  - Applied Physics Letters
  - Applied Physics A
  - Ultrasonics
  - Physics Letters A
  - New Journal of Physics
  - Materials & Design
  - Applied Acoustics
  - ASME Journal of Vibration and Acoustics
  - Science Bulletin
- *ad hoc* reviewer for NSF CMMI, NIH EITA/IDT, Focused Ultrasound Surgery Foundation, European Research Council, HFSP Career Development Award, NSERC (Canada), NOW (Netherlands organization for Scientific Research) Domain Applied and Engineering Sciences, and RGC of Hong Kong.
- Session co-chair for 2020 Internoise on “Acoustic Metamaterials”.
- Special session co-chair for 2019 ASA meeting on “Non-Reciprocal and Topological Acoustics”.
- Session chair for 2018 IEEE IUS on “Ultrasonic Devices and Non-Reciprocal Acoustics”.
- Special session co-chair for 2018 ASA meeting on “Novel Materials for Sound Absorption, Insulation, and Vibration Control”.
- Special session co-chair for 2017 ASA meeting on “Acoustic Metamaterials”.
- Special session co-chair for 2014 ASA meeting on “Brain imaging and therapy”.
- Special session chair for 2013 ASA meeting on “Ultrasound tomography”.
- Special session chair for 2013 ASA meeting on “Acoustic Metamaterials”.
- Session co-chair for 2012 ASA meeting on “Therapeutic ultrasound”.
- Session co-chair for 2012 Internoise on “Computational techniques in building and room acoustics”.

### On campus service (Penn State)

- Graduate Faculty member, 2020-present
- 3 PhD students and 1 postdoc are in progress

### On campus service (NC State)

- Member, Departmental Graduate Committee, 2011-2012, 2018-2019
- Member, Departmental Seminar Committee, 2012-2018
- Graduate Faculty member, 2014-present

- Graduated 10 MS students and 5 PhD students; 1 PhD student in progress
- Thesis committee member for 16 PhD students

## 6. Publications (underline: students and postdocs under advisory of Dr. Yun Jing, \*:corresponding author)

Google citation webpage: <https://scholar.google.com/citations?hl=en&user=nkb3d8UAAAAJ>

### 6.1 Journal Publications

1. Juanjuan Gu and Yun Jing\*, A Modified Mixed Domain Method for Modeling Acoustic Wave Propagation in Strongly Heterogeneous Media, under review.
2. Juanjuan Gu and Yun Jing\*, mSOUND: An open source toolbox for modeling acoustic wave propagation in heterogeneous media, under review.
3. Nikhil Gerard and Yun Jing\*, Loss in acoustic metasurfaces: a blessing in disguise, invited paper, MRS Communications, accepted.
4. Mourad Oudich\*, Yuanchen Deng, Molei Tao, and Yun Jing\*, Space-time phononic crystals with anomalous topological edge states, *Physical Review Research*, 1, 033069, 2019.
5. Xu Wang, X Fang, Dongxin Mao, Yun Jing\*, and Yong Li\*, Extremely asymmetrical acoustic metasurface mirror at the exceptional point, *Physical Review Letters*, 213, 214302, 2019.
6. Liting Wu, Mourad Oudich, Wenkang Cao, Haolin Jiang, Cheng Zhang, Junchen Ke, Jin Yang, Yuanchen Deng, Qiang Cheng\*, Tiejun Cui\*, Yun Jing\*, Routing acoustic waves via a metamaterial with extreme anisotropy, *Physical Review Applied*, 12, 044011, 2019.
7. Nikhil JRK Gerard, Huachen Cui, Chen Shen, Yangbo Xie, Steven Cumber, Xiaoyu Zheng\*, and Yun Jing\*, Fabrication and experimental demonstration of a hybrid resonant acoustic gradient index metasurface at 40 kHz, *Applied Physical Letters*, 114 (23), 231902, 2019.
8. Yuanchen Deng, Minghui Lu, and Yun Jing\*, A Comparison Study between Acoustic Topological States Based on Valley Hall and Quantum Spin Hall Effects, *the Journal of Acoustical Society of America*, 146, 721, 2019.
9. Dingjie Suo, Bala Govind, Juanjuan Gu, Paul Dayton, and Yun Jing\*, Dynamic assessment of dual-frequency microbubble-mediated sonothrombolysis *in vitro*, *Journal of Applied Physics*, 125 (8), 084702, 2019.
10. Juanjuan Gu and Yun Jing\*, Simulation of the Second Harmonic Ultrasound Field in Heterogeneous Soft Tissue Using a Mixed Domain Method, *IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control*, 66 (4), 2019. (**Highlighted as the front cover**)
11. Z Wang, FK Liu, SY Yu, SL Yan, MH Lu\*, Yun Jing, YF Chen, Guiding Robust Valley-dependent Edge States by Surface Acoustic Waves, *Journal of Applied Physics*, 125 (4), 044502, 2019.
12. Wen Kang Cao, Li Ting Wu, Cheng Zhang, Jun Chen Ke, Qiang Cheng\*, Tie Jun Cui\*, and Yun Jing\*, Asymmetric transmission of acoustic waves in a waveguide via gradient index metamaterials, *Science Bulletin*, accepted, 2019.
13. Jun Zhang\*, Xiaoshi Su, Yaolu Liu, Youxuan Zhao, Yun Jing, Ning Hu\*, Metasurface constituted by thin composite beams to steer flexural waves in thin plates, *International Journal of Solids and Structures*, 162, 14-20, 2019.

14. Chuyi Chen, Steven Peiran Zhang, Zhangming Mao, Nitesh Nama, Yuyang Gu, Po-Hsun Huang, Yun Jing, Xiasheng Guo,\* Francesco Costanzo\* and Tony Jun Huang\*, Three-dimensional numerical simulation and experimental investigation of boundary-driven streaming in surface acoustic wave microfluidics, *Lab on a Chip*, 18, 3645-3654, 2018.
15. Jun Zhang\*, Xiaoshi Su, Yan Pennec, Yun Jing, Xiaofeng Liu, and Ning Hu\*, Wavefront steering of elastic shear vertical waves in solids via a composite-plate-based metasurface, *Journal of Applied Physics*, 124, 164505, 2018.
16. Xiuyuan Peng, Jun Ji, and Yun Jing\*, Composite honeycomb metasurface panel for broadband sound absorption, *J. Acoust. Soc. Am. Express Letters*, 44 (4), EL255-EL261, 2018. (**Top 20 most downloaded article in 2018**)
17. Weiwei Zhu, Xinsheng Fang, Dongting Li, Yong Sun, Yong Li\*, Yun Jing\*, and Hong Chen\*, Simultaneous observation of topological edge state and exceptional point in an open and non-Hermitian acoustic system, *Physical Review Letters*, 121 (12), 124501, 2018.
18. Badreddine Assouar\*, Bin Liang\*, Ying Wu, Yong Li, Jianchun Cheng, Yun Jing\*, Acoustic Metasurfaces, *Nature Reviews Materials*, 3, 460–472, 2018.
19. Gang Yong Song, Cheng Zhang, Qiang Cheng\*, Yun Jing\*, Chengwei Qiu, and Tiejun Cui\*, Transparent coupled membrane metamaterials with simultaneous microwave absorption and sound reduction, *Optics Express*, 26 (18), 22916-22925, 2018.
20. Gangyong Song, Qiang Cheng\*, Tiejun Cui\*, and Yun Jing\*, Acoustic planar surface retroreflector, *Physical Review Materials*, (2), 065201, 2018.
21. Liting Wu, Gangyong Song, Wenkang Cao, Qiang Cheng\*, Tiejun Cui\*, and Yun Jing\*, Generation of multiband spoof surface acoustic waves via high-order modes, *Physical Review B* 97 (21), 214305, 2018.
22. Kaustav Mohanty, Siddharth Mahajan, Gianmarco Pinton, Marie Muller, and Yun Jing\*, Observation of self-bending and focused ultrasound beams in the MHz range, *IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control*, 65, 1460-1467, 2018.
23. Juanjuan Gu and Yun Jing\*, Numerical Modeling of Ultrasound Propagation in Weakly Heterogeneous Media Using a Mixed Domain Method, *IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control*, 65, 1258-1267, 2018.
24. Nikhil Gerard, Yong Li\*, and Yun Jing\*, Investigation of acoustic metasurfaces with constituent material properties considered, invited paper, special issue on Acoustic Metamaterials and Metasurfaces, *Journal of Applied Physics*, 123, 124905, 2018 (**Featured article & AIP Scilight**)
25. Chen Shen\*, Yangbo Xie, Junfei Li, Steven Cummer, and Yun Jing\*, Acoustic Metacages for Sound Shielding with Steady Air Flow, invited paper, special issue on Acoustic Metamaterials and Metasurfaces, 123, 124501, *Journal of Applied Physics*, 2018.
26. Yuanchen Deng, Hao Ge, Minghui Lu\*, and Yun Jing\*, Observation of zone folding induced acoustic topological insulators and the role of spin-mixing defects, *Physical Review B*, 96, 184305, 2017. (**Selected for PRB Kaleidoscope**)
27. Dingjie Suo, Bala Govind, Shengqi Zhang, and Yun Jing\*, Numerical investigation of the inertial cavitation threshold under multi-frequency ultrasound, *Ultrasonics Sonochemistry*, 41, 2018, Pages 419-426.
28. Tai-yun Huang and Yun Jing\*, Investigation of the effective density of arbitrarily shaped plate-type acoustic metamaterials without mass attached, *Wave Motion*, 74, Pages 124-133, 2017.

29. Yong Li, Chen Shen, Yangbo Xie, Junfei Li, Wenqi Wang, Steven A. Cummer\*, and Yun Jing\*, Tunable asymmetric transmission via lossy acoustic metasurfaces, *Phys. Rev. Lett.* 119, 035501, 2017.
30. Yifan Zhu, Xudong Fan, Bin Liang\*, Jianchun Cheng\*, and Yun Jing\*, Ultra-thin acoustic metasurface-based Schroeder diffuser, *Physical Review X*, 7, 021034 (2017). **Highlighted on Nature Reviews Materials**
31. Dingjie Suo, Zhiyang Jin, Xiaoning Jiang, Paul A. Dayton, and Yun Jing\*, Microbubble mediated dual-frequency high intensity focused ultrasound thrombolysis: an In vitro study, *Applied Physics Letters*, 110, 023703, 2017. **Editors' pick**
32. Jin Di, Jicheng Yu, Qun Wang, Shanshan Yao, Dingjie Suo, Yanqi Ye, Matthew Pless, Yong Zhu, Yun Jing\* and Zhen Gu\*, Ultrasound-Triggered Noninvasive Regulation of Blood Glucose Levels Using Microgels Integrated with Insulin Nanocapsules, *Nano Research*, accepted 2017.
33. Jun Zhang, Yi Zhang, Juan-juan Gu, Yun Jing, Rui-min Chen, Mark S. Humayun, K. Kirk Shung, Andrew C. Weitz\*, and Qifa Zhou\*, Transducer Selection for In Vivo Ultrasonic Retinal Stimulation: A Porcine Eye Model Study, *Journal of Ophthalmology and Ophthalmic Surgery*, Volume 2 (1): 100112, 2016.
34. Chen Shen and Yun Jing\*, Loss-induced Enhanced Transmission in Anisotropic Density-near-zero Acoustic Metamaterials, *Scientific Reports*, 2016; 6: 37918.
35. Yangbo Xie , Chen Shen , wenqi wang , Junfei Li , Dingjie Suo , Bogdan-Ioan Popa , Yun Jing\* and Steven A. Cummer\*, Acoustic Holographic Rendering with Two-dimensional Metamaterial-based Passive Phased Array, *Scientific Reports*, 35437 (2016).
36. Tai-yun Huang, Chen Shen and Yun Jing\*, On the evaluation of effective density for plate- and membrane-type acoustic metamaterials without mass attached, *J. Acoust. Soc. Am.*, 2016 Aug; 140(2):908.
37. C. Shen, Y. Xie, J. Li, SA Cummer, Y. Jing\*, asymmetric acoustic transmission through near-zero-index and gradient-index metaurfaces, *Applied Physics Letters* 108 (22), 223502.
38. Y. Yang, B. Li, Z. Chen, N. Sui, Z. Chen, MU Saeed, Y. Li, R. Fu, C. Wu, Y. Jing, Acoustic properties of glass fiber assembly-filled honeycomb sandwich, *Composites Part B: Engineering* 96, 281-286.
39. Tai-yun Huang, Chen Shen and Yun Jing\*, Membrane- and plate-type acoustic metamaterials, *J. Acoust. Soc. Am.*, accepted, 2016.
40. Yong Yang, Binbin Li, Zhaofeng Chen, Ni Sui, Zhou Chen, Yufang Li, Renli Fu, and Yun Jing\*, Sound insulation of multi-layer glass fiber felts: Role of morphology, *Textile Research Journal* , 0040517516629142, 2016 .
41. Chen Shen, Yangbo Xie, Ni Sui, Wenqi Wang, Steven Cummer, and Yun Jing\*, Broadband acoustic hyperbolic metamaterial, *Physical Review Letters*, **115**, 254301, 2015 . **Editors' Suggestion.**
42. Dingjie Suo, Sijia Guo, Weili Lin, Xiaoning Jiang, and Yun Jing\*, Thrombolysis using multi-frequency high intensity focused ultrasound at MHz range: an in vitro study, *Physics in Medicine and Biology*, 60 (18), 7403, 2015.
43. Juanjuan Gu and Yun Jing\*, Modeling of wave propagation for medical ultrasound: a review, *IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control*, 62, 1979-1992, 2015.
44. Ni Sui, Xiang Yan, Tai-yun Huang, Jun Xu, Fuh-Gwo Yuan\*, and Yun Jing\*, Lightweight yet sound-proof honeycomb acoustic metamaterials, *Applied Physics Letters*, 171905 (2015) **Most read the month of May. Featured by Wall Street Journal, Scientific American, WRAL, Aviation International News, Quartz, Gizmag, Engadget, R&D Magazine, Daily Mail, Business Standard, and Phys. Org.**

45. Chen Shen, Jun Xu\*, Nicholas Fang and Yun Jing\*, Anisotropic complementary acoustic metamaterial for cancelling out aberrating layers, *Physical Review X*, **4**, 041033 (2014). **Featured by Science Daily and Phys.org**
46. Chen Shen and Yun Jing\*, Side Branch-based Acoustic Metamaterials with a Broad-band Negative Bulk Modulus, *Applied Physics A*, 117 (4), 1885-1891 (2014).
47. Yun Jing\*, Molei Tao and Jonathan Cannata, An Improved Wave-Vector Frequency-Domain Method for Nonlinear Wave Modeling, *IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control*, vol. 61, pp.515-524 (2014).
48. Meng Wang, Wenqiao Yuan\*, Xiaoning Jiang, Yun Jing and Zhuochen Wang, Disruption of microalgal cells using high-frequency focused ultrasound, *Bioresouce technology*, vol. 153, pp.315-321 (2014).
49. Jin Di, Jennifer Price, Xiaoning Jiang, Yun Jing\*, Zhen Gu\*, Ultrasound-Triggered Regulation of Blood Glucose Levels Using Injectable Nano-Network, *Advanced healthcare material*, vol. 3, issue 6, pp. 811-816 (2014). (Selected as the front cover. Featured by Science Daily, Kurzweilai, The Engineer.)
50. Tianren Wang and Yun Jing\*, Transcranial ultrasound imaging with speed of sound based phase correction: A numerical study, *Physics in Medicine and Biology*, vol 58, pp. 6663-6681 (2013).
51. Sijia Guo, Yun Jing and X.N. Jiang\*, Tissue ablation using multi-frequency high-intensity focused ultrasound, *IEEE Transaction on Ultrasonics, Ferroelectrics, and Frequency Control*, 60, pp. 1699-1707 (2013).
52. Xiang, N. \*, Escolano, J. Navarro, J. and Yun Jing, Investigation on the effect of aperture sizes and receiver positions in coupled rooms, *J. Acoust. Soc. Am.*, 133, pp. 3975-3985 (2013).
53. Yun Jing\*, Jonathan Cannata, and Tianren Wang, Experimental verification of time-domain nonlinear acoustical holography, *J. Acoust. Soc. Am.*, 133, pp. 2533-2540 (2013).
54. Yun Jing\*, Jun Xu, and Nickolas Fang, Numerical study of a near-zero-index acoustic metamaterials, *Physics Letters A*, 376, pp. 2834-2837, 2012.
55. Yun Jing\*, Tianren Wang, and G.T. Clement, A k-space method for moderately nonlinear wave propagation, *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control* , 2012; 59, pp. 1664-1673.
56. Yun Jing\*, On the use of an absorption layer for the angular spectrum approach, *J. Acoust. Soc. Am.*, 131, 2012, pp. 999-1002.
57. Yun Jing\*, F. Can Meral and Greg Clement, Time-reversal transcranial ultrasound beam focusing using a k-space method, *Physics in Medicine and Biology*, 57, 2012, pp.901-917.
58. Chang-sheng Mei, Lawrence P. Panych, Jing Yuan, Nathan J. McDannold, Lisa H. Treat, Yun Jing, Bruno Madore\*, Combining two-dimensional spatially selective RF excitation, parallel imaging, and UNFOLD for accelerated MR thermometry imaging, *Magnetic Resonance in Medicine*, 66, 2011, pp. 112-122.
59. Yun Jing\* and Greg Clement, On the use of Gegenbauer reconstructions for shock wave propagation modeling, *J. Acoust. Soc. Am.*, 130, 2011, pp. 1115-1124.
60. Yun Jing\*, Du Shen and Greg Clement, Verification of the Westervelt equation for focused transducers, *IEEE Transactions on UFFC*, 58, 2011, pp. 1097-1101.
61. Yun Jing and Greg Clement\*, Evaluation of a wave vector frequency domain method for nonlinear wave propagation, *J. Acoust. Soc. Am.*, 129, 2011, pp. 32-46.

62. Yun Jing\* and Edward Larsen and Ning Xiang, One-dimensional transport equation models for sound energy propagation in long spaces: Theory, *J. Acoust. Soc. Am.*, 127, 2010, pp. 2312-2322.
63. Yun Jing\* and Ning Xiang, One-dimensional transport equation models for sound energy propagation in long spaces: simulations and experimental results, *J. Acoust. Soc. Am.*, 127, 2010, pp. 2323-2331.
64. Ning Xiang\*, Yun Jing and Alex Bockman, Investigation of acoustically coupled enclosures using a diffusion equation model, *J. Acoust. Soc. Am.*, 126, 2009, pp. 1187-1198.
65. Yun Jing and Ning Xiang\*, Visualization of sound energy across coupled rooms using a diffusion equation model, *J. Acoust. Soc. Am. Express Letters*, 124, 2008, pp. EL360-365.
66. Yun Jing and Ning Xiang\*, On boundary conditions for the diffusion equation in room-acoustic prediction: Theory, simulations, and experiments, *J. Acoust. Soc. Am.*, 123, 2008, pp. 145-153.
67. Yun Jing and Ning Xiang\*, A modified diffusion equation for room-acoustic prediction (L), *J. Acoust. Soc. Am.*, 121, 2007, pp. 3284-3287.
68. Xiao Chen, Zhizhuai Zhu, Yun Jing, Shuai Dong, Jun-Ming Liu\* Magnetization oscillation in a nanomagnet driven by a self-controlled spin-polarized current: nonlinear stability analysis, *Physical Review B* 76 (5), 054414, 2007.
69. Yun Jing\*, Jin Chen, Xiao Chen, and Xun Gong, Frequency shift of thickness-shear vibrations of AT-cut Quartz Resonators due to a liquid layer with the electrode stiffness considered, *IEEE Transaction on Ultrasonics, Ferroelectrics, and Frequency control*, 2007, pp. 1290-1292.
70. Yun Jing\*, Jin Chen, and Xun Gong, Stress-Induced Frequency Shifts in Rotated Y-cut Langasite Resonators with Electrodes Considered, *IEEE Transaction on Ultrasonics, Ferroelectrics, and Frequency Control*, 2007, pp. 906-909.
71. Yun Jing, Xun Gong\*, and et. al., Influence of Electrodes on Force Frequency Characteristics of Rotated Y-cut Quartz Resonators, *Japanese Journal of Applied Physics*, 2006, pp. 9167-9171.

## 6.2 Proceeding papers

1. Juanjuan Gu and Yun Jing, A modified mixed domain method for modeling wave propagation in heterogeneous media, *IEEE International Symposium on Ultrasonics*, Kobe, Japan, 2018.
2. Yuanchen Deng and Yun Jing, Zone folding induced topological insulators in phononic crystal, *IEEE International Symposium on Ultrasonics*, Washington DC, 2017.
3. Dingjie Suo, Bala Govind, and Yun Jing, Numerical investigation of inertial cavitation threshold under multi-frequency ultrasound, *IEEE International Symposium on Ultrasonics*, Washington DC, 2017.
4. Jin Di, Jicheng Yu, Yun Jing, and Zhen Gu, Microgels Integrated with Nanocapsules for Ultrasound-Triggered Insulin Delivery, *17th IEEE International Conference on Nanotechnology*, invited paper.
5. Yun Jing, A wave-vector-frequency-domain method for linear/nonlinear wave modeling in heterogeneous media, *IEEE International Symposium on Ultrasonics*, Chicago, 2014.
6. J. Escolano, Ning Xiang, J. Navarro and Yun Jing, A diffusion equation model for investigations on acoustics in coupled-volume systems, *Proceedings of International Congress on Acoustics, Montreal, Canada*, 2013.
7. Yun Jing, J. Cannata, Experimental verification of a wave-vector-frequency-domain nonlinear acoustic model, *Proceedings of International Congress on Acoustics, Montreal, Canada*, 2013.

8. Tianren Wang, Yun Jing, Flawed transducer detection using random sample consensus for ultrasound tomography, *Proceedings of International Congress on Acoustics, Montreal, Canada, 2013*.
9. Ning Xiang, J. Escolano, J. Navarro and Yun Jing, Experimental validations of diffusion-equation-based acoustical modeling in coupled-volume systems, *Proceedings of International Congress on Sound and Vibration, 2013*.
10. Yun Jing and Ning Xiang, A transport equation model for acoustic predictions in a long space with multiple sources, (invited paper) *Proc. InterNoise 2011*
11. Yun Jing and Greg Clement, On the use of a Gegenbauer reconstructions for shock wave propagation modeling, *IEEE International Symposium on Ultrasonics, 2010*.
12. Ning Xiang, Philip Robinson and Yun Jing, Characterization of non-exponential sound energy decays in multiple coupled volumes, *International Congress on Acoustics, Sydney Aug., 2010*.
13. Yun Jing and Ning Xiang, Visualization of sound energy flows across coupled-volume system (invited paper), *Proc. InterNoise, 2009*.
14. Yun Jing and Ning Xiang, On a diffusion equation model for sound energy flow prediction in acoustically coupled spaces, *Proc. COMSOL Conference, Boston, 2008*.
15. Yun Jing and Ning Xiang, Extending applications of the diffusion equation model using a modified boundary condition for sound field modeling, *Proc. InterNoise, pp. 218, 2008*.
16. Yun Jing, Robert Bocala, Assad Oberai, and Paul Bigeleisen, Optimum design of echogenic needles for ultrasound guided nerve block, *IEEE International Symposium on Ultrasonics, pp. 906-909, 2008*.
17. Yun Jing and Ning Xiang, Boundary conditions for the diffusion model in room-acoustic perdition, *Proc. COMSOL Conference, Boston, 2007*.
18. Yun Jing and Ning Xiang, Investigations on higher orders of spherical harmonics equations for efficient room-acoustic predictions, *19th International Congress on Acoustics, 2007*.

### **6.3 Conference abstracts (available upon request)**

#### **7. Invited Talk/Seminars**

1. Numerical modeling of medical ultrasound, invited seminar, The University of Mississippi, Department of Physics and Astronomy, 2020.
2. Architected micro-lattices for wide-band vibration attenuation, ASA meeting, San Diego, 2019.
3. Optimization on metasurface-enabled sound absorbing panels, ASA meeting, San Diego, 2019.
4. Numerical modeling of medical ultrasound, invited seminar, University of Southern California, Biomedical engineering, 2019.
5. Acoustic metasurfaces, invited seminar, Facebook, Seattle, 2019.
6. Numerical modeling of wave propagation and its applications in medical ultrasound, invited seminar, Penn State University, Graduate program of acoustics, 2019
7. Acoustic metasurface, MRS Spring meeting, Phoenix, 2019



8. Acoustic metasurfaces, invited seminar, Virginia Polytechnic Institute and State University, Department of Mechanical Engineering, 2018.
9. Acoustic metasurfaces, invited seminar, Beijing Institute of Technology, School of Aerospace Engineering, 2018.
10. Simulation of wave propagation in heterogeneous media, Meeting of the Acoustical Society of China, Beijing, 2018.
11. Numerical modeling of ultrasound propagation in heterogeneous media using a mixed domain method, ASA meeting, Victoria, Canada, 2018.
12. Noise reduction using metamaterials and metasurfaces, ASA meeting, Victoria, Canada, 2018.
13. Acoustic metasurfaces, invited seminar, Georgia Institute of Technology, School of Mechanical Engineering, 2018.
14. Membrane-type acoustic metamaterials, invited seminar, Georgia Institute of Technology, School of Mathematics, 2018.
15. Acoustic wave propagation: numerical modeling and its control via acoustic metamaterial/metasurface, invited seminar, Department of Mechanical Engineering, University of Texas at Austin, 2018.
16. Acoustic Metasurfaces, Huazhong University of Science and Technology, invited seminar, School of Optical and Electronic Information, Wuhan, China, 2018.
17. Modeling of acoustic wave propagation, invited seminar, Department of Earth and Space Sciences, Southern University of Science and Technology, China, 2018.
18. Acoustic wave propagation: numerical modeling and its control via acoustic metamaterial/metasurface, invited seminar, College of Aerospace Engineering, Chongqing University, China, 2018.
19. Acoustic wave propagation: numerical modeling and its control via acoustic metamaterial/metasurface, invited seminar, Institut Langevin, Paris, France, 2018
20. Asymmetrical sound transmission through acoustic metasurfaces, IUTAM Symposium “Acoustic/Elastic Metamaterials, Their Design and Application”, Beijing, China, 2018.
21. Asymmetrical sound transmission through acoustic metasurfaces, META 2018, Marseille, France.
22. High intensity focused ultrasound based thrombolysis using multiple frequency excitation, International symposium of frontier acoustics, Shenzhen, China, 2017.
23. Acoustic metamaterials and metasurfaces, invited seminar, Southeast University, China, 2017.
24. Ultrathin Acoustic Metasurface-Based Schroeder Diffuser, META 2017, Seoul, Korea, 2017.
25. Asymmetric sound transmission, invited seminar, School of Physics, Tongji University, 2017.
26. Acoustic metamaterials and metasurfaces, invited seminar, Material Science Department at Johns Hopkins Univ., 2016.
27. Membrane-type acoustic metamaterials, invited seminar, School of Physics, Nanjing University, 2015
28. Acoustic metamaterials for cancelling out bones, Brain workshop, Focused ultrasound surgery foundation, Charlottesville, Virginia, 2015

29. Ultrasound-Triggered Regulation of Blood Glucose Levels Using Injectable Nano-Network, invited talk, Wuhan University International Forum for Interdisciplinary Sciences and Engineering, Wuhan, China, 2014
30. On the use of fast marching methods for transcranial beam focusing, ASA meeting, Providence, Rhode Island, 2014
31. Transient nonlinear acoustical holography, ASA meeting, San Francisco, CA, 2013
32. Medical application of nonlinear wave vector frequency domain modeling, ASA meeting, Kansas City, MO, 2012.
33. Room acoustics modeling using the diffusion and transport equation models, *Proc. The 9<sup>th</sup> International Symposium on Modern Acoustics*, Nanjing, China.
34. Visualization of sound energy flows across coupled-volume system, Proc. InterNoise, Ottawa, Canada.